IMPACT AND POTENTIAL OF ONLINE TRAINING ON TECHNICAL AND VOCATIONAL (CAREER) EDUCATION IN THE BAHAMAS

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ABSTRACT

In the Bahamas, online education at local tertiary institutions is almost non-existent because of pre-existing mindsets. However, the Bahamas Technical and Vocational Institute has been using a blended learning program for the past four years. This paper/case study looks at the impact and the future place of online education in Technical and Vocational Education and Training in an archipelago nation. In particular, the paper explores challenges including technology and human resources, as well as opportunities for reaching more of the country through the application of online learning.

KEYWORDS: Blended training, Career and technical education, Online training, Technical and vocational education and training

INTRODUCTION

Online education is available everywhere in the world. However, each country is responsible for developing their own. They need to do this to meet the needs of their country. The Bahamas is an archipelago consisting of about 700 islands and cays. Its population is just under 400 thousand per the United Nations Department of Economic and Social Affairs (2015). Online education in the Bahamas produced by Bahamian institutions is almost non-existent. The Bahamas Technical and Vocational Institute (BTVI) is responsible for the Career or Technical and Vocational development of the Bahamian workforce for the entire Bahamas. Its main areas are Office Administration, Business Technologies, Construction, Electronics and Information Technology. Currently BTVI consist of three campuses. The main campus on the Island of New Providence with capital Nassau, another at Freeport, Grand Bahama and one in Abaco. For the past few years the institution has been embracing the use of technology in the classroom. Four years ago, the Department of Information Technology took it another step by introducing Moodle. Moodle is a learning platform used by over 90 million users in institutions and organizations of all sizes around the world. It is used especially in developed counties in companies and universities such as Shell, London School of Economics, State University of New York, Microsoft and Open University.

According to Junaidu S. (2008) there is a scientific support for online electronic education:

The potential of multimedia in education does have a theoretical foundation. Bagui and Daniels summarized the theory of multi-channel communication in support of the potential for multimedia (Bagui, 1998 and Daniels, 1995). According to this theory, humans have several channels by which data is communicated. If information is
presented via two or more of these channels, there will be additional reinforcement and, consequently, greater retention, thereby improving learning (Ellis, 2004).

Online learning relies on many technologies and the internet in general, because of this for a developing nation, there are many challenges that need to be overcome. We know that online education can work according to Nguyen (2015) using studies on Nosingificndifference.org he observed that 60% of all distance and online education studies is at least as effective if not better than traditional education (p. 315). For education in general to be effective instructors and teachers must be properly trained. This is even more important in areas that are emerging. For us at BTVI the then Manager Dr. Iva Dahl, commissioned the Daytona State College to create an enrichment program for faculty members. In this program, most instructors got their first experience with working in a blended environment. Our new president, Dr. Robert Robertson introduced us to Quality Matters, with their resources and expertise we are on a path to building a successful online program.

THE IMPACT OF ONLINE TRAINING

Since BTVI is a technical and vocational institution, it is not only expected but necessary to teach with a hands-on approach for the students. Most of our students are kinesthetic learners as well and our fields of study are for trade areas where people work with their hands. This makes a total online approach impractical and therefore, would not be effective.

With tertiary education, courses are taught within a specific time frame therefore the time spent with students needs to be maximized for it to be effective. This is where we saw that online education could play a role. We try to teach with the approach that will allow students to learn from each other in a collaborative environment. Especially with groups of twenty students or more, this becomes time consuming and could prevent some students from getting the attention that they need. We found that by creating discussion forums that students could access outside of class time we solved this problem to a great degree.

We further found that students responded better to peer assessment and peer review than simple teacher responses and feedback. Boase-Jelinek, Parker and Herrinton (2013) noted that peer assessment can be thought off as giving non-summative formative feedback (Wood, Kurzel, 2008) and noted:

Van den Berg, Admiraal and Pilot (2006), such reviews have benefits not only for the student receiving the feedback, but also for the student giving it. Students generally experience peer review as a non-threatening process that benefits their learning by providing suggestions from their peers about how to improve their work and by helping them understand the criteria that will be used for the summative assessment of their work (Wood, Kurzel, 2008).

Using technology in this blended way allowed the teachers to continue the class outside of regular class time and give the students more time with the materials being taught.

This new option allowed for the repetition needed for vocational learners. Our objective is not only to produce people for the workforce but it is also to produce lifelong learners. As noted by Weibell:

In the psychology of learning we often confuse the effects of repetition on a single association of stimulus and response with the effects of practice on the development of skill, which is something quite different. In learning any skill, what must be acquired is not an association or any series of associations, but many thousands of associations that will connect specific movements with specific situations (Weibell, 2011).

Another benefit that was found was the positive response to immediate feedback. Students could be taught while completing an assignment. In this way instructors, could guide a student to arrive at the correct conclusion as opposed to simply showing what was needed. Students became more excited with learning since we not only had a lectures and lab situation. We had lively discussions that everyone could learn from. These forums also showed multiple approaches that students used for problems which encouraged creativity in other students. Over 60% of our students are employed in fulltime jobs. This means they attend classes after a hard day’s work. This made focusing at times difficult and thus learning a challenge. By extending the class into the cloud they could then use any free time to continue their lessons. Since this includes other student and teacher interactions it made a big difference for many student’s performance. In the Information Technology Department, we moved to a cloud based lab setup. Per Testout.com some “lessons only experience can teach”. We use their cloud services to allow our students to take home the lab. This made a dramatic improvement with the performance of our Information technology (I.T.) students. Government and major private sector corporations often seek our students. When an I.T. student completes their Associate of Applied Science degree in Information Technology Management they will have at least three internationally recognized certifications. These include CompTIA A+, Network+, Security+ and Microsoft Certified Professional. Again, after we introduced the blended program we saw a significant increase in the pass rate of international external certifications.

THE FUTURE OF ONLINE TRAINING

For the Bahamas based on its geographic makeup, online education is the future. At BTVI we are currently working on our first generation of completely online courses, this will allow people in the family of islands the opportunity not to leave their home islands to attend classes. With innovations in technology, completely online training is possible in many academic vocational areas. This is especially true for Information Technology with many virtual learning/training software available. In most parts of the world even where computers are not available, cellular phones are available with internet. People are now able to complete courses on their smart phones and receive training via videos and other virtual lessons. According to Hu and Yu, in the latest in a Global Shapers Survey of 25,000 young people from across the world, 77.84 % of the respondents reported having taken online courses in the past (Hu, Yu, 2016).
There are two forms of online education, for-credit and for professional training and certification. BTVI has incorporated both into our Information Technology programs. On completion, our students leave BTVI with a degree and professional certifications. Most industries require professionals to have certifications to verify their experience and knowledge. This is in line with our objectives of preparing people for the work force. According to Greenspan, 75% of IT managers believe certifications are important to team performance. Also 66% of managers believe certification improve overall level of service and support to IT customers.

In particular he suggests that cloud-based learning will become the norm:

> There is an increasing demand for inexpensive, high-quality, global training. Currently, business is transitioning from costly in-person training routines to eLearning programs. In the coming years, any stigmas attached to online learning will be abolished. Instead, cloud-based technology will streamline corporate training procedures and open doors to customized learning options for small and medium sized businesses (Cournoyer, 2013).

### Challenges Faced

There are many challenges to online education but they can be split into two categories. Problems from the student’s side and problems from the educator’s side. According to Kumar there are five common problems faced by students that can be solved with proper actions:

- Adaptable Struggle – Where the student resist change from a regular classroom to an online course management system
- Technical Issues – Where high speed internet is not available or the computer resource is not at an adequate level
- Computer Literacy – Where most students are tech smart with smart phone and tablets, they lack training with word processors and spread sheet applications.

### Conclusions

At BTVI we have solved many of the challenges with online education in Technical and Vocational Education and Training (TVET) on campus by offering a blended learning approach. However, as we move to offering some completely online courses (distance learning), we must be aware of the issues so that we can develop our programs to compensate. In a developing nation, such as the Bahamas, we are also faced with funding, technical, and human resources issues. To be successful at implementing high quality, meaningful education that will provide for the needs of the county’s workforce, our instructors need to fully understand the challenges and learn to overcome them.

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