Hospitality Management Students' Expectation and Perception of a Virtual Field Trip Website: An Australian Case Study Using Importance-Performance Analysis

* Anoop Patiar, Associate Professor
Griffith University, Tourism, Sport and Hotel Management
a.patiar@griffith.edu.au

Emily Ma, Dr
Griffith University, Tourism, Sport and Hotel Management
e.ma@griffith.edu.au

Sandie Kensbock, Dr
Griffith University, Tourism, Sport and Hotel Management
s.kensbock@griffith.edu.au

Russell Cox, Mr
Griffith University, Tourism, Sport and Hotel Management
russell.cox@griffith.edu.au

***Corresponding Author**
Glyn Davis (N72) 0.31
170 Kessels Road
Brisbane, Queensland, 4111
Australia
Tel. No. + (617) 3735 4104

This project was funded by Griffith Business School

Hospitality Management Students' Expectation and Perception of a Virtual Field Trip Website: An Australian Case Study Using Importance-Performance Analysis

ABSTRACT

Despite the advancement of technology, hospitality education has made limited use of the virtual field trip. This study examined students' expectations and perceptions of quality features of a virtual field trip website in a second-year course within a hospitality degree. A quantitative research design was used and data were collected from 182 hospitality students at an Australian university. Descriptive analysis and Importance-Performance analysis were performed to analyze the data. The results revealed that overall students were satisfied with the quality of the learning experience they gained from using the website. Through Importance-Performance Analysis, the study also identified aspects of the website that need to be further improved. The study enriches the literature in electronic-learning and confirms the virtual field trip as an effective tool for supporting the practical components of hospitality education and improving students learning experience. To allow a similar approach to be applied to other courses within hospitality degrees, additional research is required to assess its effectiveness in terms of students' learning experience and educational outcomes.

KEY WORDS: Virtual Field Trip Website, Hospitality Management, Importance-Performance Analysis

INTRODUCTION

Traditionally, hospitality management (HM) degree programs have included a combination of a practical component, business knowledge, and soft skills - a combination of skills that is a necessity for hospitality graduates wishing to join the workforce (Busby & Gibson, 2010). However, in recent years, many universities - particularly in Australia - have substituted practical courses with theoretical alternatives (Dredge et al., 2012; Robinson, Breakey & Craig-Smith, 2010). This alternative option has meant that students are no longer exposed to a real organizational environment where they can learn hospitality management (hotel food and beverage) along with interpersonal skills.

Several researchers argue for the inclusion of experiential learning in programs of study such as hospitality management (HM) degrees (Alexander, Lynch & Murray, 2009; Jones, 2004; Lashley, 2004; Morrison, 2003) to promote active learning (Green & Sammons, 2014), particularly as the paucity of practical components within the curriculum affects not only the students but also the institution. Active learning refers to a model of instruction focusing the responsibility of learning on learners. Students in active learning mode must read, write, discuss, or be engaged in solving problems (Bonwell & Eison, 1991). Lack of practical experience will not only disengage students with active learning but more importantly will leave students unprepared for their future career which reduces their chances of securing suitable employment and future career development, eventually damaging the reputation of the educational program and institution (Busby, 2001; Jenkins & Walker, 1994).

As the growth in world tourism, particularly in developing countries, has created increased career opportunities in the hospitality industry, the demand for HM programs at the tertiary level has escalated (Liburd, Hjalager & Christensen, 2011), presenting universities with logistical challenges. These challenges consist of timetabling large lectures and multiple tutorials/seminars, leading to high student to academics ratios. The present ratio of 21.7:1 in

Australia is among the highest reported for the top 200 universities in the world (Universities Australia, 2014).

The issues of class size and student-to-academics ratio preclude the provision of a real-life experience such as of a hotel's functioning for students, creating a rising need to introduce innovative teaching pedagogy for disseminating job knowledge (i.e., practical aspects of food and beverage management) and soft skills (i.e., interpersonal skills in dealing with customers, co-workers, and other key stakeholders) (Coleman et al., 2002). HM degree programs need to be redesigned, and one possible direction is to consider an innovative delivery of course content (Sheldon et al., 2008). The quest for innovation opens the way to using technology for enhancing teaching as well as the learning experience of HM students.

One innovative teaching practice, E-learning, can help universities overcome the logistical challenges of large classes and simultaneously satisfy millennial students who have grown up in the era of technology (Martinez-Aleman, 2014). This innovative teaching practice can offer flexibility and convenience to academics, students and administration (Sharpe, 2011). Moreover, it can foster the inclusion of the key elements of hotels' functioning in the curriculum, possibly at a reduced cost. Although E-learning has become a common practice in tertiary education (Salmi, 2001), the virtual field trip (VFT) has not been widely used in hospitality education. In an attempt to fill this gap, a virtual field trip website (VFTW) has been developed by a group of academics at a university in Australia. The VFTW features five-star hotels' food and beverage management and includes images, videos, floor plans, and interviews with key managers, highlighting aspects of quality, management of people, and financial control. Using a blended-learning mode, the website link was embedded in the Blackboard course site and the contents of the website were constructively aligned with learning objectives, learning activities and assessments. The VFTW aims to provide students

with an opportunity to systematically examine the functioning of a five-star hotels' food and beverage, thus providing an authentic experiential learning within HM degree program.

While advancements in technology have made possible the development of the VFTW as a learning and teaching tool, students' response is unknown as to whether they would consider it to be an effective means of bridging the gap between the classroom and the workplace. As such it is important to examine students' perceptions and attitudes toward the VFTW's use in a practice-based Food and Beverage Management course. Therefore, the objectives of this study include the following:

(i) Assess the importance and performance of the VFTW's quality attributes;

(ii) Examine whether differences exist between the importance and performance of the VFTW's quality attributes; and

(iii) Using Importance-Performance Analysis, Identify the aspects of the VFTW that need special attention for making improvements techniques using importance-performance analysis.

LITERATURE REVIEW

Australian Perspective of Hospitality Education

Tourism and hospitality education programs emerged in Australia in the 1970s, and by 2006, universities in Australia offered 111 undergraduate programs and 85 post graduate programs (Craig-Smith & Ruhanen, 2006). A recent search employing an Australian website revealed more than 250 tourism and hotel management programs (Australian Government, 2015). Currently, more tourism programs than hospitality programs are offered in Australia, because from a provider's perspective tourism programs are less expensive since they require no investment in practical laboratories (e.g., kitchen, bar, and restaurant facilities) and they incur no operational costs (King & Craig-Smith, 2010). A search on the Australian government website returned 252 tourism programs and only 116 hospitality programs (Australian

Government, 2015). Practical training components in Australian hospitality programs have been shrinking, one reason being a large proportion of Australian students take part-time employment within the hospitality and tourism industry (King, 2006). However, these days international students make up of a significant proportion of hospitality students body. The international students face challenges in finding suitable part-time jobs in the hospitality industry due to language and cultural barriers, limited industry experience and visa restrictions. Hence, some formalized practical hospitality skill practices within the university environment is highly desirable in building students' confidence levels and reducing their anxiety at work place (Ma, Kim & Lee, 2007).

Moreover, in Australia, the federal government's funding to the public universities has been continuously reducing (e.g., between 1994 and 2012, government funding fell by 16.7%, and further reduction of 20% has been debated) (Universities Australia, 2014). Many university communities hold the belief that HM degrees lack academic rigor, and as such numerous universities have either completely eliminated or drastically reduced the practical aspects from the curriculum (Craig-Smith & French 1990; Dredge et al., 2012). However, in the United States, the UK, Europe, and Asia, universities still value the inclusion of practical food and beverage components in the HM curriculum. Many institutions not only offer instruction in food and beverage production and service laboratories but also maintain fully functional hotels on campus (The Best Schools, 2015). In particular, students in Australia are missing opportunities of being exposed to structured on-campus practical hotel experiences at operational and management levels, even though the hospitality industry values the importance of practical experience (Alexander et al., 2009; Jones, 2004; Lashley, 2004; Morrison, 2003). Despite the fact that students in Australia can take a part-time job, most of them are only exposed to one type of job and lacking a full understanding of the hospitality industry. Further, due to visa restriction, language and cultural barriers, international students

often face changes in securing part-time jobs. Therefore, on-campus practical training is still essential to help students build a comprehensive understanding of the industry. Therefore, on-campus structured practical training is essential in helping to students for their chosen career in the industry.

Technology Use in Hospitality Education

Scholars argue that tourism and hospitality programs are not only in need of change in course content (redefining skills and knowledge sets) but also in the more innovative means of course delivery (Sheldon et al. 2008). However, in pursuing innovation, researchers and practitioners need to cultivate creative solutions based on existing principles and theories of pedagogy (Reeves, McKenney & Herrington, 2011).

A potential approach to enhancing the teaching of HM programs is through E-learning, defined as the delivery of learning, training or education programs via electronic means, involving computers or electronic devices (Stockley, 2003). Research reports indicate that students exposed to face-to-face instruction and video-recorded teaching attained similar levels of culinary skills and knowledge. Importantly, however, students receiving face-to-face instruction performed significantly better on group assessments than on individual assessments, whereas students receiving video-assisted instructions did well on both group and individual pieces of assessment (Brown, Mao & Chesser, 2013). According to Oh and Park (2009) blended learning is a new delivery mode that combines face-to-face teaching using computer-mediated activities. We believe that a blended mode of course (including delivery of traditional face-to-face instructions and the use of the VFTW) can maximize students' learning experiences and help in bridging the gap between theory and practice.

Furthermore, E-learning technology in the form of social media can be used (e.g., Facebook has been used in higher education and resulted in improved interaction among students and lecturers as students were able to project themselves socially and affectively.

Particularly, the medical students training in different hospitals used Facebook to facilitate discussion and sharing, thus strengthening the element of a social presence as suggested by the community of inquiry (COI) framework (Anderson et al., 2001). In fact, COI is concerned with the nature of knowledge formation and the process of scientific inquiry (Dewey, 1938) and suggests that knowledge is necessarily embedded within a social context. According to Garrison, Anderson and Archer (2010) the COI framework can provide students with a learning experience through overlapping concepts that are social (i.e., using physical facilities and providing the opportunity to interact with others), pedagogical (i.e., guiding and facilitating learning through timely and ongoing feedback), and cognitive (i.e., progressing learning from simple concepts to more complex concepts). Through a COI, hospitality management students could also interact with their peers and mentors to share knowledge, seek advice, and gain a valuable learning experience.

E-learning is becoming common owing to its flexibility and convenience for both academics and students (O'Donoghue, Singh & Dorward, 2001; Warburton & Higgitt, 1997). Adoption of technology in higher education can assist in organizing and managing mass education, provide permanent access to learning materials, and enable easier communication and collaboration between students and academics (Sharpe, 2011). Moreover, technology can help universities reach students more effectively and also position themselves in academic circles using innovative practices.

In the field of hospitality education, where on-campus practical facilities are diminishing, can E-learning find its way? While technology cannot replace hands-on experience, it can enhance the theoretical components of the program (Airey, 2008). Within the university's supportive environment, technology can expose students to various practical aspects of hotel operations in a structured and meaningful manner, and as a result help develop key competencies that are necessary to work in the hotel industry. As an example,

students can process reservations and can check-in/check-out guests using the computer software Opera. Also, other courses use online simulations programs, such as the 'HOTS' program to allow students to work in groups and make strategic decisions on hotel operations. Researchers point out that the use of technology in practical nature courses in the hospitality management, particularly when an authentic assessment aligning theory and practice with real-world scenarios, help in supporting active learning and better engaging students with their studies (Deale et al., 2010).

Despite the advantages technology brings, research has produced mixed findings regarding the effects of technology on students' learning outcomes. Buzzard et al., (2011) found that while students and lecturers were eager to use technology in learning and teaching, disciplines differed in the use of specific tools. McCabe and Meuter (2011) examined whether technological tools can enhance learning outcomes in undergraduate education and found that technology does not necessarily enhance students' learning outcomes. Eom, Wen and Ashill (2006) found similar results, and also that, compared to traditional face-to-face learning, technology-assisted courses or subjects or units require students to be more highly motivated and responsible for their own learning.

In other words, motivation plays an important role in the learning process, and the use of technology can enhance the learning outcomes. However, the philosophy of one size fits all should be avoided for distinct courses and disciplines as students' learning styles may also influence the learning outcomes, and technology-integrated learning might be more suitable for learners who prefer visual and read/write learning styles (Eom et al., 2006). Other researchers have raised concerns that the absence of direct human interaction might make it difficult for students to develop social and critical thinking skills (Salmi, 2001). Therefore, an appropriate mix of face-to-face and online teaching and the selection of technology aligning with the program requirements are critical in designing technology-integrated courses. In

fields such as HM, a careful examination of the 'fit' between the technology and courses is essential.

Students' Perception of E-Learning

Universities regularly assess students' perception of the teaching and learning experience using surveys and focus groups. The feedback from different sources plays a significant role in reviewing curriculum, developing new programs/courses, assessing academic performance, and improving the standard of learning and teaching. Students' satisfaction of the learning experience is an important indicator of their desire to continue with the program (Bryant, 2006) and helps in predicting students' persistence to graduate (Borden, 1995), as it affects motivation, study habits, and a desire for academic success (Suhre, Jansen & Harskamp, 2007).

Researchers argue that E-learning improves current students' learning experiences, because they were born into a digital society and expect the presence of technology throughout the education system (e.g., Brown, 2000; Cai, Morrison & Ismail, 2001; Kozma & Johnston, 1991). The use of technology in teaching and learning promotes students' engagement in the construction of knowledge and changes the focus of instruction from that of individual learner to that of collaborative learning, and also helps lecturers meet the needs of students with diverse learning styles, thus improving the communication between lecturers and students (Lee, 2002).

However, E-learning may contribute to negative student evaluations because some students report that they have to spend more time on technology-based courses than on traditional, lecture-based classes (Benvenuto, 2002; Casado, 2000; Horton, 2001; McNeill, 2001). Extra time is needed because E-learning requires students to be more engaged and self-disciplined in the learning process compared with the traditional learning environment (Benvenuto, 2002). Although the current generation of students has grown up with

technology, these students prefer to use technologies for social activities rather in the learning environment (Harding, Kern & Toft, 2001). In particular, some of them are uncertain about what they need to do in the case of student-centered teaching and learning (Benvenuto, 2002). With respect to using the VFTW, it is important for academics to know how students perceive the quality of the VFTW and how it can affect students' learning experience.

The Quality Attributes of the Virtual Field Trip Website

Researchers claim that it is one thing to develop and use a VFTW in the HM degree program and another thing to assess how students perceive the quality of the VFTW, as well as to measure how effective the VFTW is in terms of students' learning experience (Lin & Hsieh, 2001; Reeves et al., 2011). The technical aspects and the usefulness of the on-line course websites are key factors in enhancing students' overall learning experience (Cho, Cheng & Lai, 2009; Roca, Chiu & Martinez, 2006). This importance lies in the fact that the quality of course websites would attract and influence students' acceptance of, and engagement with, E-learning and thereby determine the extent of the learning experience and tangible outcomes (i.e., increased knowledge and improved grades) (Morss, 1999).

Researchers generally agree that reliable technical performance, such as ease of use and compatibility, is important for e-learning tools (e.g. Lin & Chen, 2013; Oh, Ahn & Kim, 2003). Perceived ease of use is the degree to which a person feels the system is free of effort (Chang & Tung 2008). Moore and Benbasat (1991) suggested that perceived ease of use can offer competitive advantage for an e-learning tool. Ease of use could include easy navigation and short loading time. Compatibility is the degree to which potential users perceive the innovation to be consistent with their values, previous experience and present needs. Compatible with multiple browsers and multiple devices are essentially important for today's e-learning tools. Lin and Chen (2013) confirmed compatibility as an important feature for e-learning tools. It is found as a critical factor for students' behavioural intentions to use the e-

learning course websites, along with perceived ease of use and perceived usefulness relating to the degree to which users believe that a particular system will enhance their performance (Chang & Tung, 2008).

Perceived usefulness is the degree to which users believe that a particular system will enhance individual's performance (Chang & Tung, 2008). To improve the usefulness of the website, learning materials need to be up to date and also relevant to learning contexts and assessment tasks. Scholars contend that e-learning course website's usefulness and ease of use are highly correlated with students' acceptance of the system and willingness to make full use (Chang & Tung, 2008).

In addition, researchers also found that innovative features such as visibility and enjoyment are essential elements for perceived usefulness of e-learning website (Chang & Tung, 2008; Oh et al., 2003). Indeed, students' perceptions of the importance and performance of the quality attributes of VFTW would decide the level of their satisfaction. According to the services marketing literature, consumers' perceived quality results from their comparison of service expectations with what they actually receive (Zeithaml, Parasuraman & Berry, 1990). In the context of university education, students are considered to be consumers of education (O'Neill & Palmer, 2004), and their satisfaction occurs when their expectations are met or exceeded throughout the educational process (Elliott & Shin, 2002). Abundant evidence in the education literature supports perceived service quality as an antecedent to students' satisfaction (Gruber et al., 2010). Moreover, satisfied students are more likely to complete the program of study and also to spread positive word-of-mouth (Bryant, 2006; Helgesen & Nesset, 2007; Lee, 2002). In addition, gaps may exist between perceived importance and actual performance of the VFTW attributes and the following section is going to explore students' perception of the website using importance-performance analysis.

METHODOLOGY

Measurement Development

In collecting data, we used a self-administered questionnaire comprising two sections. Section one gathered students' demographic information. Section two assessed students' perception of the importance and performance of the quality attributes of the VFTW, using 12 statements adapted from the instrument of Lin (2007) because of its suitability to the current research and its robustness. Lin updated the instrument of DeLone and McLean (2003). Lin's (2007) measurements covered both system quality and information quality of online learning tools and aimed to serve as a guideline for academic institutions interested in designing and implementing online learning systems. Lin's (2007) work has been repeatedly cited and validated in many studies (e.g. Lee, 2010; Chen, Yang & Huang, 2015; Mohammadi, 2015a; Wang et al., 2015).

To suit the current study contexts, necessary modifications on the wordings were made. Respondents were asked to rate both the importance and performance of the 12 attributes on VFTW quality, using five-point Likert type scale (1 = strongly disagree, 5 = strongly agree). For example, to measure importance, we used "It is important that the VFTW learning materials are easy to access" and "It is important that the VFTW was easy to navigate when searching for learning materials". To measure performance we used "VFTW made learning materials easy to access" and "The VFTW was easy to navigate to find the learning materials".

Approval for the study was obtained from the university's Research Ethics and Integrity Office. A panel of hospitality and education researchers then assisted in improving the face validity of the questionnaire by reviewing each statement, and we pilot-tested the questionnaire with a convenience sample of 30 students, finding a satisfactory reliability for

importance attributes of α=.897 and for performance attributes of α=.933. The questionnaire was then used for final data collection.

Data Collection

The target population for this study was under-graduate students enrolled during the academic year 2012 in the Food and Beverage Management course, a second-year compulsory course. In total, 298 students were enrolled in the course on the two campuses of the university, and all students were invited to participate in the study. To address the issue of a potential power imbalance between academics and students, questionnaires were distributed in tutorials/seminar sessions by tutors (teaching assistants) and secure boxes were provided to collect the completed questionnaires. No personal identification questions were included in the questionnaire, and students who wanted to participate in the lucky draw of $50 gift voucher provided their contact details on a separate page that they dropped into a separate secure box. In total, 182 completed and usable questionnaires were returned, and used for data analysis, representing a valid response rate of 61.07%. Scholars in hospitality management education research have reported similarly high response rates, varying between 53.3% and 100% (Ahmad, 2015; King & So, 2014; Wang et al., 2015; Xu & Yan, 2015).

Data Analysis

The data were analyzed using SPSS 20.0. Descriptive statistics were used to gain a general profile of the respondents. Paired-sample *t*-tests and Importance-Performance Analysis (IPA) were performed to identify the strengths and weaknesses of the VFTW. The IPA technique, which was first applied in the hospitality and tourism research by Martilla and James (1977), assessed customers' perceptions on the importance and performance of each aspect of service quality, thus highlighting the features of service quality areas that require special attention and an appropriate strategy. The use of IPA in academic research has been widespread, as it

is considered simple and effective decision making tool (Duke & Persia, 1996; Evans & Chon, 1989; Lam & Zhang, 1999).

In the IPA model, the vertical axis indicates the perceived importance, whereas the horizontal axis shows the performance of attributes (Figure 1). For example, the attributes in quadrant A depict the strengths of an organization and can be heavily publicized, while the attributes in quadrant B should be given top priority for improvement action. The findings of IPA are especially useful in identifying the areas of improvement by establishing customers' perceptions and expectations of the organization's performance expectations. The IPA results are also useful in implementing appropriate marketing strategies. In the context of education, academics can apply the same principle in identifying students' perceptions and expectations of the education program's performance expectations and thereby instil further improvements.

Insert Figure 1 here

RESULTS

Profile of the Respondents

Table 1 shows the general profile of the respondents, of which 63.7% were female and 36.3% were male. The majority of the students were under the age of 26 (93.9%). Additionally, 70.9% of the respondents were international students and the remaining 29.1% were domestic students. The majority of the students had no work experience in the hospitality industry (84.1%) but had aspirations to work in the hospitality industry upon graduation (79.7%).

Insert Table 1 About Here

We also performed a number of variance tests to explore if differences exist between different student groups, such as gender and domestic or international origins (Table 2). We noticed very few differences were found between different genders and students with or

without working experiences. However, significant differences were found on a number of aspects between domestic and international students such as loading time of the VFTW and its ability in assisting assessments.

Please Insert Table 2 About Here

Perceived Importance and Performance of the VFTW

Table 3 shows the relative importance and performance of each quality attribute of the VFTW. The top three importance attributes were numbers 8, 9, and 10 (respectively, "the learning material on VFTW was presented at a level that was easy to understand," "the use of multimedia attracts learners' attention," and "the interface of the VFTW was user-friendly"). The top three performance attributes were numbers 8, 11, and 10. Interestingly, attributes 8 and 10 are not only ranked among the most important, but are also ranked highest on performance. We also compared if significant differences exist between students' perceived importance and performance of the VFTW attributes, using non-parametric paired-sample *t*-test. It showed 9 out the 12 attributes' performance scores were significantly different (lower) than that of their importance scores (Table 3). In other words, the website did not fully meet students' expectations as to efficiency and content. Only three attributes (5, 11, and 12), including learning materials, learning scenarios and enjoyment, had no significant differences between their importance ratings and performance ratings and can be said to have met students' expectations.

Please Insert Table 3 About Here

Importance-Performance Analysis

Further analysis was undertaken with the help of IPA, as shown in Figure 2. Five attributes (6, 8, 9, 10, and 11) fell into the grid labelled "Keep Up the Good Work," with attribute 8 performing the highest. The next six attributes (1, 2, 3, 4, 7, and 12) fell into the grid labelled "Low Priority." No attribute fell into the "Concentrate Here" grid and only attribute 5 was in

the “Possible Overkill” grid. These results suggest that students generally found the material presented in the VFTW to be interesting and up-to-date. Although some of the technical aspects of the VFTW did not meet the students’ expectations, these appear in the low priority quadrant. However, since most of the attributes performed well, future refinement of the VFTW should focus on improving the efficiency and the user-friendly nature of the website.

Please Insert Figure 2 About Here

DISCUSSION

This study investigated students’ perception of their use of a VFTW in a Food and Beverage Management course by extending the Importance-Performance Analysis method in the education field. The importance and performance of each aspect of the VFT were assessed and strategies on how to continually improve the tool were discussed. The study also makes an important contribution by introducing technology-enhanced teaching and learning into the hospitality management discipline. It provides an opportunity to use blended learning delivery mode in hospitality education.

Specifically, students revealed that while the actual course content and the ease of use of the VFTW were important aspects for their learning experience, they expected the technology in the interface of a VFTW to be equal to or better than what they use for their personal and recreational purposes. Harding et al., (2001) argue that as the current generation of students grew up in the age of technology, their expectations of the technology interface are very high. Other researchers have also suggested that to ensure students accept and make decent use of resources to accomplish the course objectives, educators and educational designers should focus on improving not only the course content but also its delivery through the use of state of the art technology (Chang & Tung, 2008; Oh et al., 2003).

In particular, the findings of the study also suggest that the VFTW needs to ensure that learning support material is up to date and easy to access. Additionally, the user interface to navigate information must load within a minimal time. Finally, the VFTW must employ the latest multimedia technology (such as panoramic photography with the help of imaging technology and panoramic tools), thus integrating documents, images, video, and the Blackboard Learning System into a virtual tour. The interactive nature of the virtual tour would aid learning as well as offer fun to students. Therefore, improvements are still necessary in the technical aspects of the VFTW to attract and promote a greater engagement of students in their learning experience. Future development of the VFTW may consider using new technologies such as the 360° VFT, which would greatly enhance the user-friendly feature of the VFTW and attract students' attention.

The Importance-Performance analysis showed that the VFTW was effective in providing appropriate learning scenarios to students and highly relevant learning materials, which the future development of the website should keep up the good job. The IPA results also showed that navigation and loading time was not the biggest concern. However, with technology advancement, future development of the website should aim for enhanced efficiency and effectiveness.

As an innovative and cost-effective learning and teaching tool, the use of a VFTW can also overcome the issues of large classes and the logistics of traveling to a field visit of hotels, giving students an opportunity to connect with the intricate operational aspects of the food and beverage operation (the back of the house, production, and the front of the house) and with senior executives in an eloquent way (O'Donoghue, Singh & Dorward, 2001; Sharpe, 2011). Students' learning experience can be improved by using an integrated approach to teaching. For example, the VFTW exposes students to the practical aspects of a hotel's food and beverage management and is likely to make the students active learners

(Deale et al., 2010; Fletcher et al., 2012; Green & Sammons, 2014). The VFTW concept can be applied to other courses of study within under graduate HM degree programs and thereby increase students' ability to solve real-world problems and better prepare them for their future chosen career path.

LIMITATIONS AND FUTURE RESEARCH

As this investigation is a single study using cross-sectional data from one university, the conclusions drawn from the findings cannot be generalized to other subjects and contexts. Future research should consider the use of a longitudinal study design or an experimental design, perhaps inviting other universities to participate in assessing the usefulness of VFTW. Future research could look into the effectiveness of the VFTW in improving students' learning experience and measurable outcomes (e.g., grade point average, retention, completion, and engagement in suitable employment). As Green and Sammons (2014) note, hospitality management education is somewhat complex, and as such it would benefit from the use of an alternate qualitative method (e.g., in-depth interviews with students) to gain valuable insights into how students perceive the usefulness of the course content, teaching pedagogy, and application of technology. In addition, as suggested by Table 2, perception differences were observed on a number of aspects between different students groups, future research looking into the causes of these differences is highly desirable.

REFERENCES

Ahmad, S. (2015). Entrepreneurship Education in Tourism and Hospitality Programs. *Journal of Hospitality and Tourism Education, 27*(1), 20-29.

Airey, D. (2008). Tourism Education Life begins at 40. *TEOROS, 27*(1), 1-12.

Alexander, M., Lynch, P. & Murray, R. (2009). Reassessing the core of hospitality management education: The continuing importance of training restaurants. *Journal of Hospitality, Leisure, Sport and Tourism Education, 8*(1), 55-69.

Anderson, T. Rourke, L., Garrison, D. R. & Archer, W. (2001). Assessing teaching presence in a computer conferencing context. *Journal of Asynchronous Learning Networks, 5*(2), 1-17.

Australian Government (2015). My University. Retrieved from http://www.myuniversity.gov.au/UndergraduateCourses.

Benvenuto, M. (2002). Educational reform: Why the academy doesn't change. *Thought & Action, 18*(1/2), 63-74.

Bonwell, C., & Eison, J. (1991). *Active Learning: Creating Excitement in the Classroom.* AEHE-ERIC Higher Education Report No. 1. Washington, D.C.: Jossey-Bass. ISBN 1-878380-08-7.

Borden, V.M.H. (1995). Segmenting student markets with a student satisfaction and priorities survey. *Research in Higher Education,* 36(1), 73-88.

Brown, J.N., Mao, Z.E. & Chesser. J.W. (2013). A Comparison of Learning Outcomes in Culinary Education: Recorded Videos vs. Live Demonstration. *Journal of Hospitality and Tourism Education, 25*(3), 103-109.

Brown, J. S. (2000). Growing up digital: How the web changes work, education, and the ways people learn. *Change,* March/April, 11-20.

Bryant, J. L. (2006). Assessing expectations and perceptions of the campus experience: The

Noel-Levitz student satisfaction inventory. *New Directions for Community Colleges*, 134, 25-35.

Busby, G. (2001). Vocationalism in higher level tourism courses: The British perspective. *Journal of Further and Higher Education, 25*, 29-43.

Busby, G. D. & Gibson, P. (2010). Tourism and hospitality internship experiences overseas: A British perspective. *Journal of Hospitality, Leisure, Sport & Tourism Education, 9* (1), 3-12.

Buzzard, C, Crittenden, V.L., Crittenden, W.F. & McCarty, P. (2011). The use of Digital Technologies in the Classroom: A Teaching and Learning Perspective, *Journal of Marketing Education, 33*(2), 131–139.

Cai, L. A., Morrison, A. M. & Ismail, J. (2001). Teaching global tourism geography using The Internet: A case study of the paradigm shift in educational technology. *Journal of Teaching in Travel & Tourism, 1*(2/3), 17-38.

Casado, M. (2000). Teaching methods in higher education: A student perspective. *Journal of Hospitality & Tourism Education, 12*(2), 65-70.

Chang, S. & Tung, F. (2008). An empirical investigation of students behavioural intentions to use the online learning course websites. *British Journal of Educational Technology, 39*(1), 71-83.

Chen, Z., Yang, S. & Huang, J. (2015). Constructing an e-portfolio-based integrated learning environment supported by library resource. *The Electronic Library*, *33*(2), 273.

Cho, V., Cheng, E. & Lai, J. (2009). The role of perceived user-interface design in continued usage intention of self-paced e-learning tools. *Computers and Education, 53,* 216 - 227.

Craig-Smith, S. & French, C. (1990). *Selected issues in Australian tourism and hospitality education*. Proceedings of Tourism Education. National Conference Papers 1990.

University of Canberra. pp 144-150, Bureau of Tourism Research, Canberra.

Coleman, P., Jackson, R., Ritchie, C., Roberts, A. & Snelgrove, M. (2002). An evaluation of the content, appropriateness and academic rigour of food and beverage modules within undergraduate hospitality management programmes. *Oxford, England: LTSN, Hospitality, Leisure, Sport & Tourism.*

Craig-Smith, S. & Ruhanen, L. (2006). Trends in Australia University Tourism Education: Three Decades of Growth and Development. In P. Papageorgiou, P. and E. Svivas. (Eds.). *Proceedings of Cutting Edge Research in Tourism-New Directions, Challenges and Applications.* Guildford: University of Surrey.

Coleman, P., Jackson, R., Ritchie, C., Roberts, A. & Snelgrove, M. (2002). An evaluation of the content, appropriateness and academic rigour of food and beverage modules within undergraduate hospitality management programmes. *Oxford, England: LTSN, Hospitality, Leisure, Sport & Tourism.*

Deale, C. O'Halloran, R. Jacques, P. & Garger, J. (2010). An Examination of Current Hospitality and Tourism Teaching Methods. *Journal of Hospitality and Tourism Education*, *22*(2), 20-29.

DeLone, W. & McLean, E. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems, 19*(4), 9-30.

Dewey, J. (1938). *Logic: The Theory of Inquiry*. New York: Hold Rinehart and Winston.

Dredge, D., Benckendorff, P., Day, M., Gross, M., Walo, M., Weeks, P. & Whitelaw, P. (2012). The philosophic practitioner and the curriculum space. *Annals of Tourism Research, 39*(4), 2154-2176.

Duke, C. R. & Persia, M. A. (1996). Consumer-defined dimensions for the escorted tour industry segment: Expectations, satisfactions and importance. *Journal of Travel and*

Tourism Marketing, *5*(1/2), 77-99.

Elliott, K. & Shin, D. (2002). Student satisfaction: an alternative approach to assessing this important concept. *Journal of Higher Education Policy and Management, 24*(2), 197-209.

Eom, S.B, Wen, H.J. & Ashill, N. (2006). The Determinants of Students' Perceived Learning Outcomes and Satisfaction in University Online Education: An Empirical Investigation, *Decision Sciences Journal of Innovative Education*, *4*(2), 215-234.

Evans, M. R. & Chon, K. S. (1989). Formulating and evaluating tourism policy using importance-performance analysis. *Hospitality Education and Research Journal*, *13*, 203-213.

Fletcher, R.B., Meyer, L.H., Anderson, H., Johnston, P. & Rees, M. (2012). Faculty and Students' conceptions of assessment in higher Education, *Higher Education Journal*, *64*, 119-133.

Garrison, D., Anderson, T. & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective, *The Internet and Higher Education*, *13*(1), 5-9.

George, D. & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference.* Boston: Allyn & Bacon.

Green, A. J. & Sammons, G. E. (2014). Student Learning Styles: Assessing Active Learning in the Hospitality Learners Model. *Journal of Hospitality & Tourism Education*, *26*(1), 29-38.

Gruber, T., Fuß, S., Voss, R. & Glaeser-Zikuda, M. (2010). Examining Student Satisfaction with Higher Education Services Using a New Measurement Tool. Retrieved on 2 April 2015 from https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/11928/3/Examining%20Student%20Satisfaction%20with%20Higher%20Education%20Services_IJPSM.pdf.

Harding, M., Kern, C. & Toft, S. (2001). Technology and tertiary tourism students: An Australian perspective. *Journal of Teaching in Travel & Tourism, 1*(2/3), 63-71.

Helgesen, O. & Nesset, E. (2007). What accounts for students' loyalty? Some field study evidence. *International Journal of Educational Management, 21*(2), 126-143.

Horton, B. W. (2001). Shifting from the sage on stage to the guide on the side: The impact on student learning and course evaluations. *Journal of Hospitality & Tourism Education, 13*(5), 26-34.

Jenkins, A. & Walker, L. (1994). *Developing student capability through modular courses.* London: Kogan Page.

Jones, P. (2004). Hospitality higher education – It's all over...no, it is not*! The Hospitality Review, 5*(1), 5-9.

King, B. (2006). *Tourism and Hospitality Education in Australia: Past, Present and Future.* Retrieved From http://vu.academia.edu/BrianKing/Papers/ 161209/Tourism_and _Hospitality_Education_in_Australia.

King, B. & Craig-Smith, S. (2010). *Tourism and Hospitality Education in Australia: Emerging Issues and Future Prospects.* CAUTHE 2010: Tourism and Hospitality: Challenge the Limits. Hobart, Tas.: University of Tasmania.

King, C. & So, K. (2014). Creating a Virtual Learning Community to Engage International Students. *Journal of Hospitality and Tourism Education, 26*(3), 136-146.

Kozma, R. B. & Johnston, J. (1991). The technological revolution comes to the classroom. *Change,* January/February, 10-23.

Lam, T. & Zhang, Q. H. (1999). A study of service quality: The case of travel agencies in Hong Kong, *Tourism Management, 20*(3), 341-349.

Lashley, C. (2004). *Escaping the tyranny of relevance: some reflections on hospitality management education*. Paper presented at the 14th Council for Australian Tourism and Hospitality Education Conference, Brisbane, Australia.

Lee, M. C. (2010). Explaining and predicting users' continuance intention toward e-learning: An extension of the expectation-confirmation model. *Computers & Education, 54* (2), 506-516.

Lee, V. (2002). Learning about learning: Knowing how students learn is a hallmark of the teaching profession. *NEA Higher Education ADVOCATE, 19*(5), 5-8.

Liburd, J., Hjalager, A. M. & Christensen, I. M. F. (2011).Valuing tourism education 2.0. *Journal of Teaching in Travel & Tourism, 11*(1), 107-130.

Lin, H. (2007). Measuring Online Learning Systems Success: Applying the Updated DeLone and McLean Model. *Cyber Psychology & Behavior, 10*(6), 817-820.

Lin, B. & Hsieh, C. T. (2001). Web-based teaching and learner control: a research review. *Computers & Education, 37*(4), 377-386.

Lin, S. & Chen, S. (2013). Innovation attributes and pedagogical quality: a concretization of joint theories on course management systems acceptance. *Quality and Quantity, 47*(4), 2309-2317.

Ma, E., Kim, S.S. & Lee, M.J. (2007). HTM Study Motivations and Preferences: The Case of Hong Kong and Mainland Chinese Master's Students Studying in Hong Kong. *Asian Journal of Tourism and Hospitality Research, 1*(1), 99-112.

Martilla, J. A. & James, J. C. (1977). Importance-Performance Analysis. *Journal of Marketing, 41*(1), 77-79.

Martinez-Aleman, A. (2014). Social Media Go to College. *Change: The Magazine of Higher Education, 46*(1), 13-20.

McCabe, D.B. & Meuter, M.L. (2011). A Student view of Technology in the Classroom:

Does it Enhance the Seven Principles of Good Practice in Undergraduate Education, *Journal of Marketing Education, 33*(2), 149-159.

McNeill, R. G. (2001). Creating a hospitality sales management course on the web: Lessons For the beginner. *Journal of Teaching in Travel & Tourism, 1*(2/3), 125-151.

Mohammadi, H. (2015a). Factors affecting the e-learning outcomes: An integration of TAM and IS success model. *Telematics and Informatics, 32*, 701-719.

Moore, G. & Benbasat, I. (1991). Development of an instrument to measure perceptions of adopting an information technology innovation. *Information Systems Research, 2*(3), 192-222.

Moore, W. (2003). Facts and assumptions of assessment: Technology, the missing link. *Tourism and Hospitality Education Journal, 30*(6), 20, 22-26.

Morrison, A. (2003). *Hospitality: Positioning within the higher education landscape*. Paper presented at the 12th Annual Council for Hospitality Management Education Conference, Sheffield, England.

Morss, D. A. (1999). A Study of Student Perspectives on Web-based learning: WebCT in the classroom. *A Journal on Internet Research*, *9*(5), 393-408.

O'Donoghue, J., Singh, G. & Dorward, L. (2001). Virtual education in universities: a technological imperative, *British Journal of Educational Technology, 32*(5), 511-523.

Oh, E., & Park, S. (2009). How are universities involved in blended instruction? *Educational Technology & Society, 12* (3), 327-342.

Oh, S., Ahn, J. & Kim, B. (2003). Adoption of broadband Internet in Korea: the role of experience in building attitudes. *Journal of Information Technology, 18*, 267-280.

O'Neill, M. & Palmer, A. (2004). Importance-performance analysis: a useful tool for directing continuous quality improvement in higher education. *Quality Assurance in Education, 12*(1), 39-52.

Reeves, T., McKenney, S. & Herrington, J. (2011). Publishing and perishing: The critical Importance of educational design research. *Australasian Journal of Educational Technology, 27*(1), 55-65.

Robinson, R., Breakey, N. & Craig-Smith, S. (2010). Food for thought: Investigating food and beverage curricula in Australian hospitality degree programs. *Journal of Hospitality and Tourism Education, 22*(1), 32-43.

Roca, J. C., Chiu, C. M. & Martinez, F. J. (2006). Understanding e-learning continuance intention: An extension of the Technology Acceptance Model. *International Journal of Human-Computer Studies, 64*(8), 683-696.

Salmi, J. (2001). Tertiary Education in the 21st Century: Challenges and Opportunities, *Journal of the Programme on Institutional Management in Higher Education, 13*(2), 105-130.

Sharpe, R. (2011). Evidence and evaluation in learning technology research, *Research in Learning Technology, 19*(1), 1-4.

Sheldon, P., Fesenmaier, D., Wober, K., Cooper, C. & Antolioli, M. (2008). Tourism education futures 2010-2030: Building the capacity to lead. *Journal of Teaching in Travel & Tourism, 7*(3), 61-68.

Stockely, D. (2003). E-learning Definition and Explanation. Retrieved from http://www.derekstockley.com.au/elearning-definition.html.

Suhre, C. Jansen, E. & Harskamp, E. (2007). Impact of degree program satisfaction on the persistence of college students. *Higher Education, 54*, 207-226.

The Best Schools (2015). *The 20 Best Hospitality Programs in the United States*. Retrieved from http://www.thebestschools.org/blog/2012/01/20/20-hospitality-programs-united-states/.

Universities Australia (2014). *Universities Australia Submission to Senate Committee Inquiry into Higher Education and Research Reform Amendment Bill 2014*, Canberra, ACT, Australia. Downloaded on 1 April 2015. https://www.universitiesaustralia.edu.au/news/ submissions-and-reports/Senate-Committee-Inquiry-into-Higher-Education-and-Research-Reform-Amendment-Bill-2014/Senate-Committee-Inquiry-into-Higher-Education-and-Research-Reform-Amendment-Bill-2014#.VRtVWhYZ1Ro.

Venkatesh, V. & Davis, F. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal Field Studies. *Management Science*, *46*(2), 186-204.

Wang, Y., Cai, R., Yang, C. & Qu, H. (2015). Coping Strategy in Hospitality Internships: A Mixed Methods Approach. *Journal of Hospitality and Tourism Education, 27*(1), 10-19.

Warburton, J. & Higgitt, M. (1997). Improving the preparation for fieldwork with IT: Two examples from physical geography. *Journal of Geography in Higher Education, 21* (3), 333-347.

Xu, J. & Yan, L. (2015). How Students Perceive Travel Agency-Related Degree Courses. *Journal of Hospitality and Tourism Education, 27*(1), 30-38.

Zeithaml, V. Parasuraman, A. & Berry, L. (1990). *Delivering Quality Service: Balancing Customer Perceptions and Expectations,* The Free Press: New York.

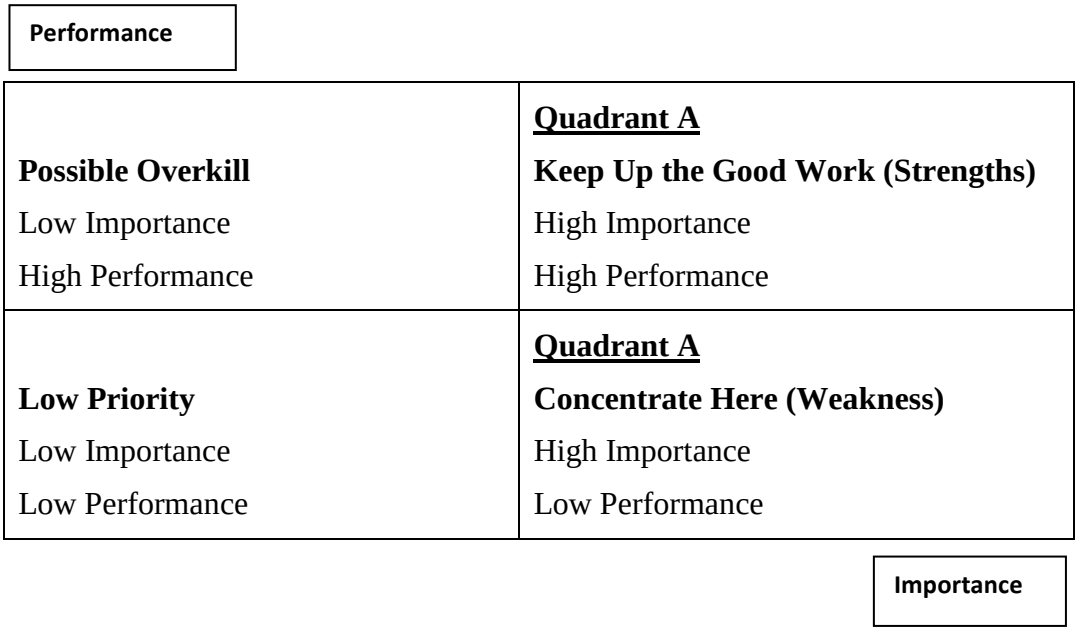


FIGURE 1 Importance-Performance Analysis Grid (Martilla & James, 1977)

TABLE 1

General Profile of Students *(N=182)*

Respondents' Profile	*Frequency (%)*	*Respondents' Profile*	*Frequency (%)*
Gender		**Work Experience**	
Male	66 (36.3)	No	153 (84.1)
Female	116 (63.7)	Yes	29 (15.9)
Age Group		**Nationality**	
18-22	100 (54.9)	Domestic	53 (29.1)
23-26	71 (39)	International	129 (70.9)
27-30	7 (3.8)	**Major**	
>30	4 (2.2)	Hotel Management	74 (40.7)
		International Tourism and Hotel Management	94 (51.6)
		Other	14 (7.7)

TABLE 2

Group Differences among Students

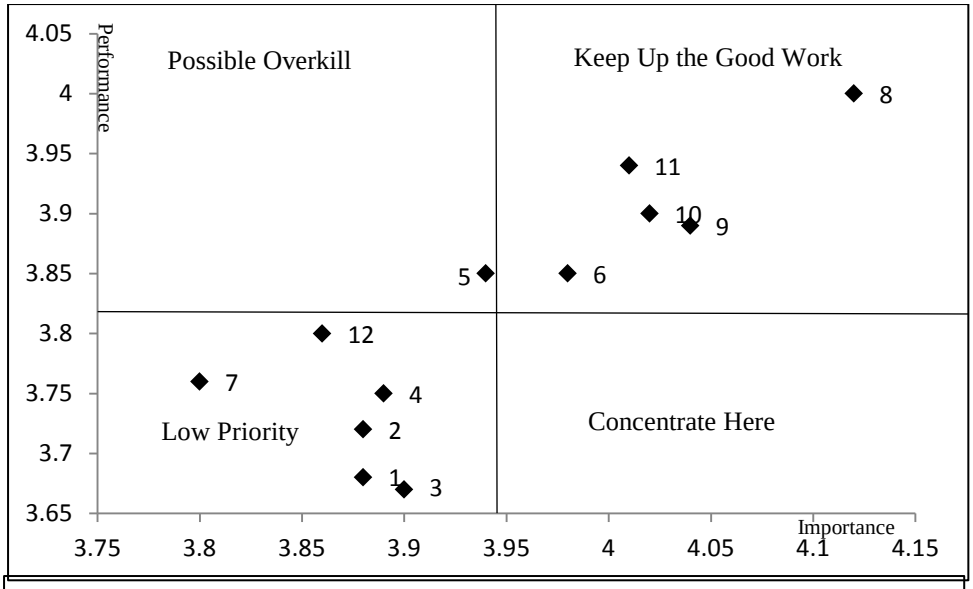
Attributes Importance	***Gender Difference (P-values)***	***Origin Difference (P-values)***	***Experience Difference (P-values)***
1. The VFTW made learning materials easy to access.	.102	.004*	.046*
2. The VFTW was easy to navigate.	.850	.000*	.090
3. The waiting time for loading VFTW was reasonable.	.820	.035*	.163
4. The VFTW enabled to accomplish course assessment effectively.	.305	.016*	.264
5. The learning material on the VFTW was displayed appropriately.	.983	.086	.259
6. The learning materials on the VFTW were up to date.	.426	.441	.083
7. The VFTW complimented course material.	.003*	.488	.599
8. The learning material on VFTW was presented logically.	.874	.467	.457
9. The use of multimedia (e.g. videos & floor plan) helped the learner.	.734	.461	.009*
10. The interface of the VFTW was user-friendly.	.847	.268	.015*
11. The VFTW provided appropriate learning scenario(s).	.411	.559	.169
12. The VFTW added to the enjoyment of learning.	.392	.492	.506
Attributes Performance			
1. The VFTW made learning materials easy to access.	.770	.177	.451
2. The VFTW was easy to navigate.	.584	.052	.104
3. The waiting time for loading VFTW was reasonable.	.410	.001*	.881
4. The VFTW enabled to accomplish course assessment effectively.	.707	.007*	.822
5. The learning material on the VFTW was displayed appropriately.	.820	.228	.258
6. The learning materials on the VFTW were up to date.	.931	.064	.310
7. The VFTW complimented course material.	.041*	.608	.961
8. The learning material on VFTW was presented logically.	.306	.972	.705
9. The use of multimedia (e.g. videos & floor plan) helped the learner.	.631	.971	.059
10. The interface of the VFTW was user-friendly.	.956	.012*	.163
11. The VFTW provided appropriate learning scenario(s).	.203	.245	.855
12. The VFTW added to the enjoyment of learning.	.028*	.008*	.786

TABLE 3

The Difference between Importance and Performance of the VFTW (N=182)

Attributes	*Importance (Mean, SD)*	*Performance (Mean, SD)*	*t-value*	*Sig.*
1. The VFTW made learning materials easy to access.	3.88 (.82)	3.68(0.92)	3.559	.001***
2. The VFTW was easy to navigate.	3.88(.90)	3.72(0.88)	2.442	.017*
3. The waiting time for loading VFTW was reasonable.	3.90(.92)	3.67(1.02)	3.197	.001***
4. The VFTW enabled to accomplish course assessment effectively.	3.89(.88)	3.75(0.96)	2.540	.009**
5. The learning material on the VFTW was displayed appropriately.	3.94(.79)	3.85(0.86)[5]	1.575	.148
6. The learning materials on the VFTW were up to date.	3.98(0.84)[5]	3.85(0.84)[5]	2.043	.034*
7. The VFTW complimented course material.	3.88(0.88)	3.76(0.89)	2.154	.034*
8. The learning material on VFTW was presented logically.	4.12(0.83)[1]	4.00(0.88)[1]	2.105	.040*
9. The use of multimedia (e.g. videos & floor plan) helped the learner.	4.04(0.83)[2]	3.89(0.93)[4]	2.644	.010*
10. The interface of the VFTW was user-friendly.	4.02(0.89)[3]	3.90(0.91)[3]	2.355	.021*
11. The VFTW provided appropriate learning scenario(s).	4.01(0.84)[4]	3.94(0.88)[2]	1.224	.168
12. The VFTW added to the enjoyment of learning.	3.86(0.93)	3.80(0.99)	.890	.600

(N=182; * Significance at .05; ** Significance at .01; *** Significance at .001)



1. The VFTW made learning materials easy to access. 2. The VFTW was easy to navigate. 3. The waiting time for loading VFTW was reasonable. 4. The VFTW enabled me to accomplish course assessment effectively. 5. The learning material on the VFTW was displayed appropriately. 6. The learning materials on the VFTW were up to date. 7. The VFTW complimented course material. 8. The learning material on VFTW was presented logically. 9. The use of multimedia (e.g. videos & floor plan) helped the learner. 10. The interface of the VFTW was user-friendly. 11. The VFTW provided appropriate learning scenario(s). 12. The VFTW added to the enjoyment of learning.

FIGURE 2 The VFTW Importance-Performance Analysis Grid