

# **DEVELOPMENT OF AN ONLINE ORIENTATION TOOL FOR FIRST YEAR SCIENCE STUDENTS: TRANSITIONING FOR SUCCESS**

## **Abstract**

*This paper investigates the implementation of an Online Orientation module for students new to the University of the South Pacific. Many incoming students face difficulties because of the sudden change in the eduscape, the transition from secondary schools to higher education institutions made more difficult because of the mutually exclusive lifestyles and expectations. The lower pass rates in first year courses is especially noticeable for cohorts such as distance students, late registrants, and students based in peripheral campuses and centres. This ICT enabled tool is designed to address the new students' anxieties and fears, and ease the adaptation to higher education. The module also allows students to understand the dynamic environment, be informed about the academic and social issues and also have the ownership of the University. Based on the findings, the paper provides recommendations on the design, development and implementation of the module.*

## **Introduction**

First year retention is arguably the biggest challenge in higher education around the world where except for a handful of universities, the rest are faced with very low retention rates (US News and World Reports, 2015). The Faculty of Science, Technology and Environment (FSTE) at the University of the South Pacific (USP) is faced with the same challenge which is heavily compounded by its unique setup. This regional university has campuses and centres housed in all its 12 member countries. The Laucala Campus having the highest head count located in Suva (Fiji Islands) being the hub of the University's administrative, academic and commercial operations (Jokhan & Sharma, 2010). Each campus varies significantly in size and student population, support services and facilities, infrastructure, and multi-modality of courses and programmes offered locally. There is a steady growth in local, regional and international students every year in the Science Faculty as its programmes are internationally recognised, continuously submitted for accreditation status, and developed online for flexible and distance learning. The important question then is how can the Faculty successfully address the escalating issue of student retention.

## **The Need**

Every university around the world toils hard to make sure new students are aware of the resources available to them to improve transition into higher education. The Faculty Online Orientation (OO) module at USP provides incoming students with an opportunity to gain a better understanding of the university learning environment and program expectations. The Online Orientation module is offered to those students who are unable to attend the face-to-face orientations sessions, including the late registrants or basically those who miss out because of the hectic and very demanding admission and enrolment processes. Most times many stakeholders forget that the orientation process is the first step for the incoming students toward becoming a full-fledged university student. During the orientation students learn about the policies and procedures that regulate the University, receive information about the services and

support available to them as a student, and gain valuable information about their academic area. They also meet with relevant staff members such as the academic advisor, the first year experience coordinator and the student learning specialists. Also, in most multi-campus institutions, apart from the main campus the associate campuses do not have full-fledged orientation and induction programmes organised for its new students.

Therefore, to make sure that the students from all over the Pacific region get the same information university wide irrespective of the campus and modes of study, the science faculty of the University of the South Pacific designed an online orientation module to help prepare its first year students for university life. The online orientation module was to effectively introduce and share information about the faculty's, support services (such as peer mentoring, eMentoring, Peer Assisted Study Sessions-PASS, academic study skills workshops, course expectations, time management best practices, refresher and induction programme, Online Mathematics Diagnostic Tool), campus facilities, details on Faculties distance education student services, support staff and tools.

The FSTE online orientation is thoroughly designed for late registrants and distance learners with information on available online support tool and further explains the difference between face to face and online learning. It further addresses the issues of time management, personal commitment and need for realistic expectation. Thus the module includes information about the USP online and blended courses expectation, weekly expected activities that will be assessed, online short test and materials available on discussion topics.

### **Review of Existing Online Orientation Modules**

The literature has highlighted numerous problems the first year or incoming students face in their early university days which negatively impact their readiness to the academic journey in higher education. The students find difficulty in adjusting to university and preparing for their lectures, labs and tutorials. The main problem highlighted by Smyth and Lodge (2012) is the overload of information during the orientation week. The solution has been to leverage on ICT to deliver online services to the students, packages which can be accessed a leisure and from the comfort of homes and hostels. In this section we consider a few interest work pertaining to online orientation and how these have been included in the new online orientation module for the Science Faculty of USP.

To capture students' attention, engagement and enhance their first year experience Fitz-Walter et al. (2011) presented orientation information during the orientation week at the Queensland University of Technology, Australia using game elements on student's smart phone. It was concluded that with inclusion of game elements information was well received by students but some sections were restricted with non-game activities and were undesirable and not as enjoyable.

Bozarth et al. (2004) defines the online orientation course designed for students new to online learning at North Carolina State University, United States of America. A number of students who arrive late completely missed the organized training session. Through questionnaire feedback between instructors of online courses and their students of what an orientation to online learning should include both the student and faculty responses indicate the clear need for adequate student preparation prior to embarking on an online learning programme. An online feedback tool was integrated on the online orientation module at the James Cook

University, both for the on-campus and off-campus students. This new approach allows early engagement and presents information which is more palatable. The main limitation is that the feedback was not made compulsory, hence securing a low response rate. The FSTE Online Orientation team arrived to the decision that continuous feedback needs to be built-in and made as a conditional activity. So for students to qualify for rewards or certificates, or even to progress to the next levels, they had to provide their valuable feedback.

Freer-Weiss (2005) also believes that students who admit late are not satisfactorily prepared for their transition to the new learning environment and indicates higher risk of attrition. He used data derived on student's date of application from the student databases of university which focuses on the students' academic performance for late registrants. He concluded that students who apply late have a higher rate of attrition than students who apply within a timeframe. Thus science faculty of the USP made online orientation mandatory for their late registrants to give them best possible start and help settle as easily as possible. While orientation helps improve student transition, Davig and Spain (2004) explains that it is equally important to have effectiveness of different activities included in the orientation that enhances positive impacts such as successful adjustment to university life and student level of persistence. The activities included student connection with the faculty and peers. Students were asked three questions about the inclusion of specific topics into the orientation course activity, adjustment to university life and suggestions for improvement. The author concluded that a freshman orientation class is one of the strongest retention programmes in universities.

The aforementioned studies identified from literature demonstrate different orientation practices and support the clear need for student preparation prior to embarking on academic journeys. Boening and Miller (2005) describe the importance of orientation practice that promotes diversity to ease the transition of new students. The main problem highlighted by author was assuring the level of social justice in higher education through breaking down racism and appreciation for diverse cultures as students arrive on campus. The research focuses on strategies identified in helping universities respond to the increasingly diverse cohort of freshmen. The author concluded that is vital to illustrate students expected behavior. In ideal situation with USP where we have students populating from different countries, races, religions and socio-economic backgrounds. The proposed OO module work on the ideas permeating from Boening and Miller (2005).

Hollins (2009) explained that students lack the meaning of basic terminologies, polices and services. The research directed on the new-student orientation program at Virginia Community College, entitled Student Orientation, Advising, and Registration (SOAR) and shorter orientation sessions known as Group Advising sessions, designed to improve the advising and enrolment processes. It was noted that the delivery of new orientation programme has an incredible increase in student success and resulted in higher GPA. At USP, the students come with different level of knowledge and if a student is not well informed they are likely to drop-out or re-enrol. Therefore, an orientation and induction before the academic journey makes more sense.

Lehning (2008) discussed the impact of extended orientation programme on academic performance and retention. The author used the data derived from the first-year undergraduate students at Kansas State University, first year students who participated in Wildcat Warm-up which is the extended orientation programme with non-participants. The research focuses on the impact of an extended orientation program on academic performance and compared with

first year students' academic performance through GPA. He concluded there was a significant relationship between retention from freshman to extended orientation programme. However, this research needs further investigation on the impact of the Wildcat Warm-up program, can further get information through interviews with past participants for qualitative data to help with program review.

## **Specification and Architecture**

The tool has been designed using Adobe Captivate software and hosted on the Modular Object-Oriented Dynamic Learning Environment (Moodle-current version 2.7) as its primary content delivery platform. Since Moodle is an open source e-learning software it serves its purpose well with the aims and objectives of Online Orientation. The activity is developed in Adobe Captivate 8 and Video Scribe which are licenced software. It is integrated onto Moodle using as a SCORM package. The development required a high end PC.

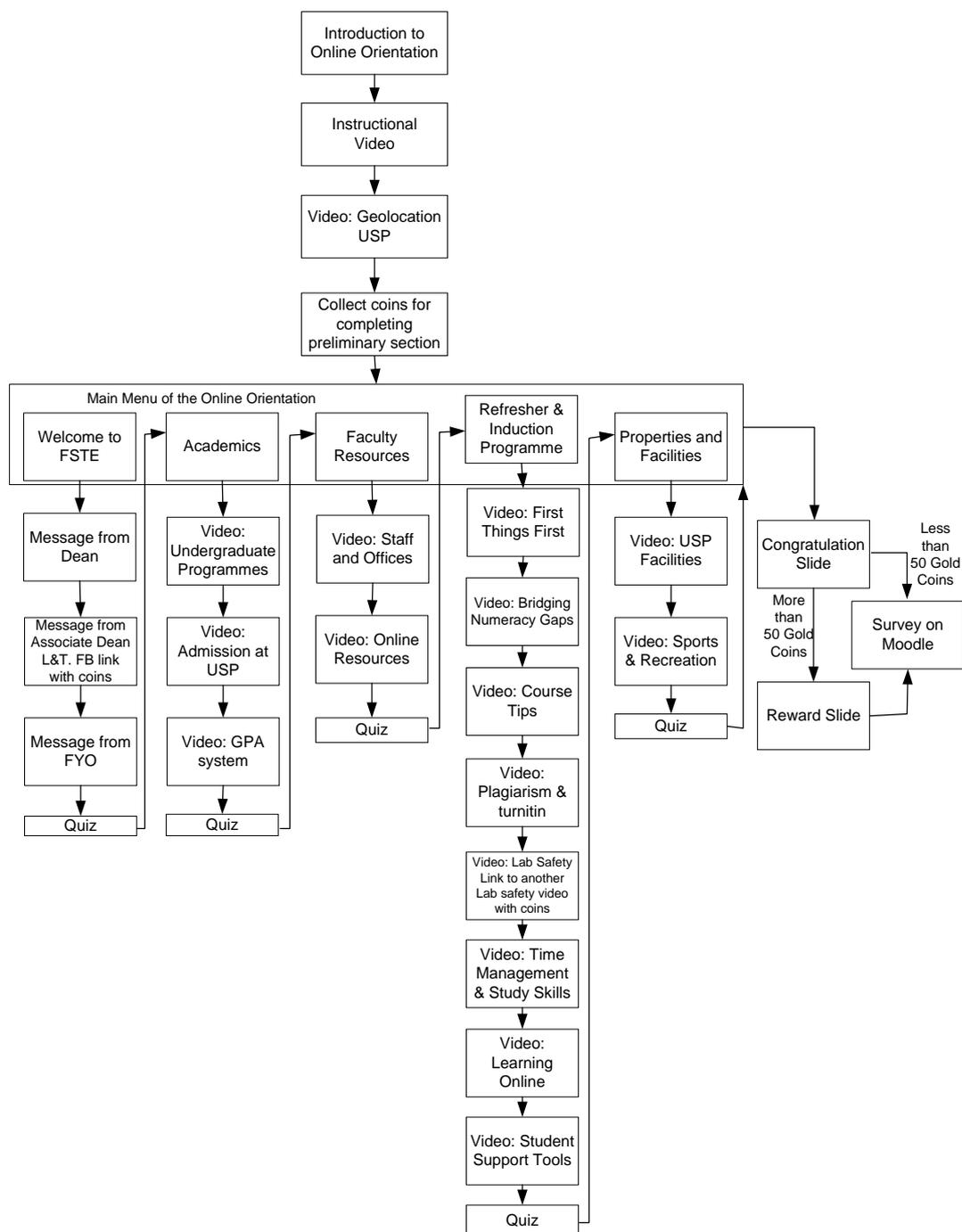
The following media are developed into the activity:

1. Animations (Online orientation Moodle homepage)
2. Videos (Video scribe)
3. Pictures (Coins, USP map)
4. Audio (Coin collecting sound, etc)

The students accessing the activity on Moodle from a PC should have the most updated version of Mozilla Firefox and Adobe Flash player to run the multi-media enriched activities. Once the student enters the activity, the user is required to read the instructions on how to carry out the activity. The activity is developed in the English language. When the student begins with the activity instructions on the supplementary materials are also provided to the student.

The students are required to do the following takes in order to fully complete the Online Orientation Module:

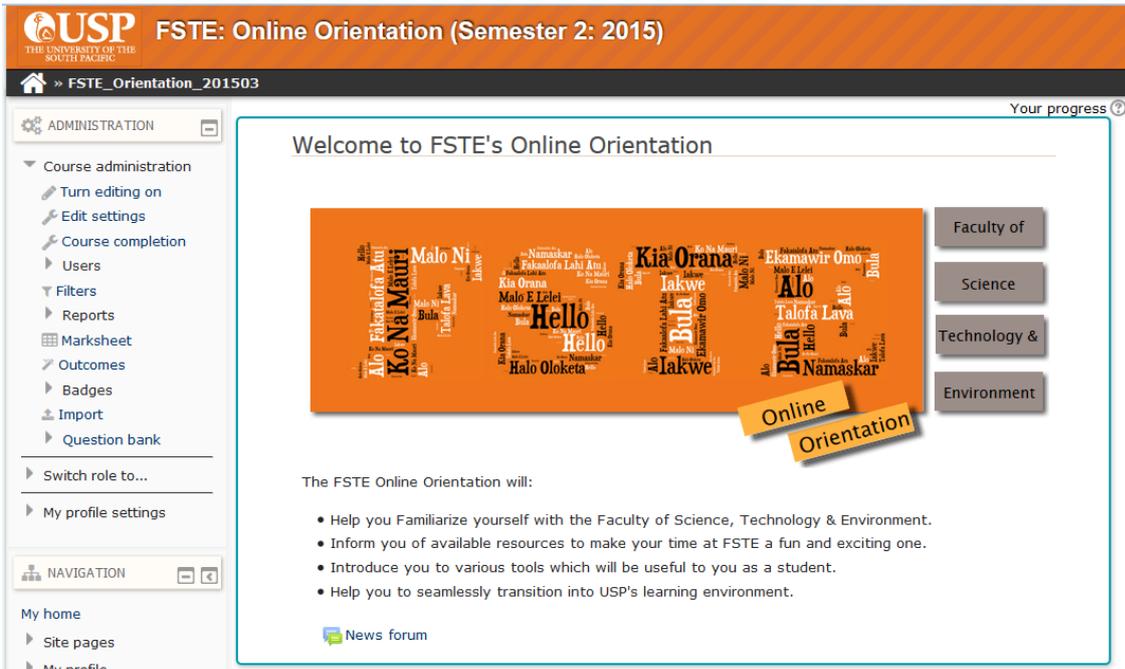
1. Login to Moodle (<http://elearn.usp.ac.fj>) and click the FSTE Online Orientation link directing the user to the activity homepage
2. Access the activity that is located on the homepage.
3. Once the student enters the activity, the user is required to read the instructions on how to carry out the activity. There will also be voice-over narrations to inform the student about the activity.
4. The student can then enter stage 1 and perform any required tasks such taking part in quizzes, play an edutainment game and collect coins.
5. Upon completing stage 1, the student is then directed to stage 2, 3, 4 and 5 consecutively. In all stages the user can find interactive components of quizzes, games and coin collection.
6. Upon the completion of all stages, the user is informed of the number of coins that he/she has collected and is asked to take the survey to provide feedback on the activity.



**Figure 1. FSTE Online Orientation project design and the workflow**

Figure 1 illustrates the project design and the workflow shows how the components of the activity are linked to each other. The module can be completed by a user in 30 to 40 minutes. At the end of each major section of the activity a quiz is presented to the student to intermediately test on the whether the student had acquired the necessary knowledge and skills.

The main page of the Faculty OO module is shown in Figure 2.



**Figure 2. FSTE Orientation Online Main Page**

The module is made engaging and interactive as it highly uses the concept gamification, which is the use of elements from games such as collecting points, competition, etc. in an activity. From the beginning of the module a gaming environment is created using animations. Then upon navigating the activity the students can collect coins by participating in the quizzes and edutainment games built into the activity at different checkpoints. In addition, some coins are hidden within the activity objects for students to discover. The number of coins that a student collects throughout the activity becomes the students score for the attempt. A total of two attempts are allowed by students. The higher score for the two attempts by a student is then written to the Moodle module marksheet. The Online Orientation Module has been developed for first year science students and was piloted in semester 1, 2015. Upon the completion of the FSTE OO, first five students who topped the activity were awarded prizes.



**Figure 3. FSTE Online Orientation Introductory Video on the Main Page**

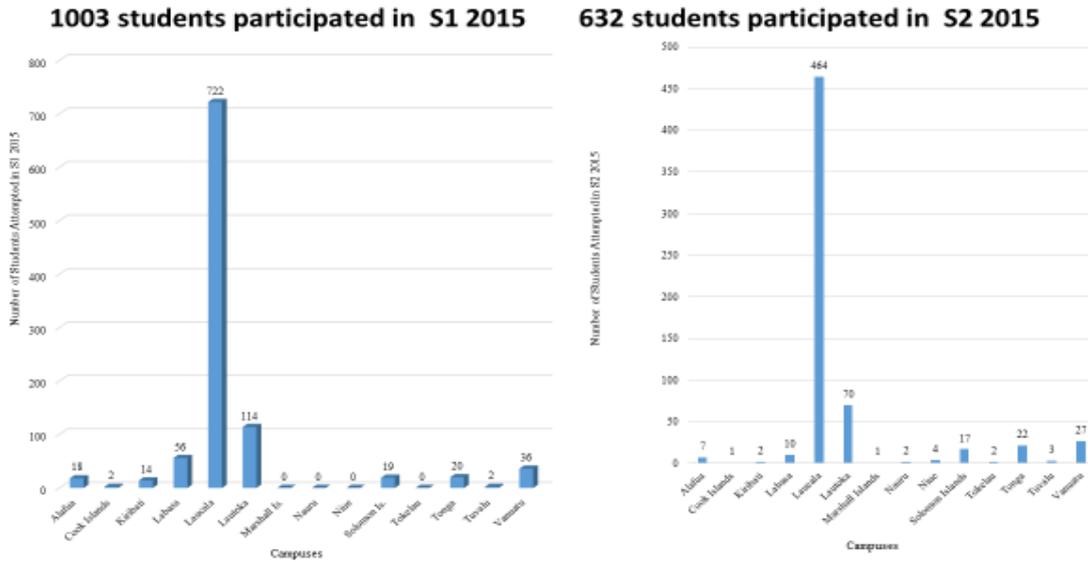
The team has produced a short introductory video about the Faculty Orientation Online Module as shown in Figure 2 above. The above video can be accessed on <https://youtu.be/1tsk5uXw6JU?list=PL700-ZJW57WfM2dTFM4eQXUFZQoJFeWhL>

### *Successes and Pitfalls*

A number of improvements of the online module have been carried out from version 1 which was piloted in Semester 1, 2015 and is now 3 semesters old. Survey questions have been inbuilt rather than having it as an external Moodle activity. The conditions of receiving a FSTE completion certificate (see Figure 4) and badge were adjusted and now students receive this awards upon completion of the survey. The introductory video was recorded with a local voice and published on YouTube. The video content was edited to make text/instructions larger and clearer with its subtitles.

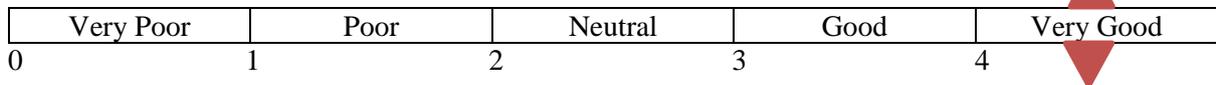
### **Results**

In Semester 1, out of 1003 student participants, 254 of them filled the survey questionnaire. However, in Semester 2, 2015 out of 632 participants, 383 of them completed the survey. The students provided the feedback through the inbuilt survey questions.

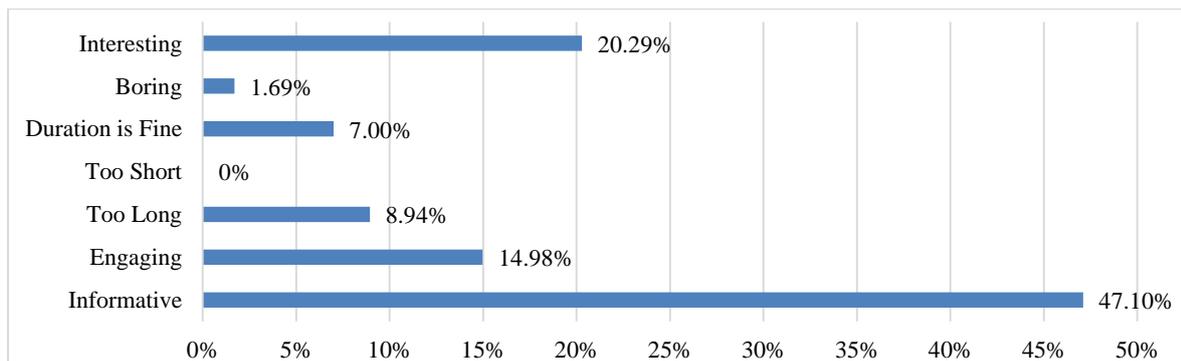


**Fig. 4: Participants from different campus for S1 & S2, 2015 (piloted year)**

From the Likert scale in Fig. 5, the average rating by the students who took the activity is 4.42 in semester 1, 2015 where 1 is for least satisfied (Very Poor) and 5 being most satisfied (Very Good) with the activity. The standard deviation for the data is 0.88



**Fig. 5: Students rating for the FSTE Online Orientation module in S1, 2015**



**Fig 6: How did you find Online Orientation activity (S1, 2015)?**

From Figure 6 the overall satisfaction was 82.37% (interesting 20.2% + engaging 14.98% + informative 47.10%) for FSTE OO. The percentage is little bit imprecise, the next questionnaire will allow student to have multiple selection. However the length of the activity needs to be considered as around 9% of the students thought that it was quite lengthy.

### *Student Testimonies:*

*“Very informative indeed and I enjoyed the quiz. Thanks FSTE for this wonderful Online Orientation”. (Laucala campus student)*

*“It’s informative and interesting. I recommend it for all first year students studying at USP.” (Laucala campus student)*

*“Very well structured and entertaining as well.” (Laucala campus student)*

*“Thank you for this online orientation, it is really helpful. Malo” (Tonga Campus student)*

*“Well organised and informative programme for first year students.” (Lautoka campus student)*

*“Duration was long and loading was little slow... otherwise was good”. (Lautoka campus student)*

### **Conclusion**

The FSTE OO module has content and information necessary for a first year student. The module is also available to parents and other stakeholders when they register using guest login at <http://omdt.usp.ac.fj>. This demonstrates success as it prepares students for a head start in the semester, equips the students with the prerequisites, addresses the new students’ anxieties and fears, ease the adaptation to USP’s learning environment and also prevent frustrations. The students can also enroll in this online module if they miss out on the face-to-face orientation (late registrants and distance learners). For the faculty it potentially reduces early withdrawals and dropouts, prepares the students for face-to-face and distance education *and* clearly explains what is involved in the studies at the university. Based on the positive feedback from the students, it does show that the FSTE online orientation tool is placed well in the overall framework of support for students. However, further investigation can be done to find out the effectiveness of the module and impact related to student retention and academic success. The activity will be continually updated with content and features.

However, we recognized that students face technological challenges given the resourcing and constraints in the Pacific region. Therefore, one of the arterial goals of the module is to inform the current and prospective students our integrated commitment to a quality distance education.

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