

Incorporating a game based approach in the orientation package of an online course: A Case study of UU204

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Abstract

Online learning is in its infant stages in the South Pacific region and both the student and teacher have yet to fully comprehend its dynamics, demands and the pedagogies associated with this mode of learning. The Orientation Activity in UU204 was designed (using standard Moodle tools) to alleviate this problem and also address the issues encountered in the previous offerings of the course; it provides students with a preview of what to expect in this online course in an innovative and fun way. The orientation package used a gamification approach (*Amazing Race*). When a student has finished unpacking it, they would have answered most of their queries about the course and online learning. Students would also have accessed the support structures available within the course and the University, acquired the skills required of an online learner, and had a hands-on experience for the core Moodle tools that would be extensively used in the course. The main objective of the study was to examine whether the orientation had an impact on student online readiness and the attrition rates for the course. The research examined the course offer in two semesters and it involved an average of 770 students per semester.

Key words

Game, learning, gamification, teaching, orientation, online, attrition, student, readiness, Moodle.

1.0 Introduction

The University of the South Pacific (USP) is one of two regional universities in the world and is governed by 12 member countries, namely, Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Samoa, Solomon Islands, Vanuatu, Tokelau, Tonga and Tuvalu. These countries also host USP's regional campuses and centres.

UU204: Pacific Worlds (an introduction to Pacific Studies) is one of the four generic courses offered by USP and is a core requirement (mandatory) for all undergraduate programmes. The intention of having such a course is to create awareness amongst USP students of the rich and diverse Pacific cultures and for them to also reflect on some of the contemporary issues common to the region such as climate change, the struggles for self-determination, the effects of colonialism, and skilled labour migration for example. The course also ensures that students achieve a core graduate attribute of USP, "Appreciation of the cultures of Pacific Islands" (University of the South Pacific, 2013).

The course was initially developed by an external consultant with minimal assistance from USP's Centre for Flexible Learning (CFL) that usually develops courses for flexible learning. It was initially offered in 2012 via the blended mode where approximately 70% of the teaching and learning occurred online supported by some face to face sessions. The course had several face to face sessions in the first 2 weeks of the semester and these sessions were largely focused on:

- introducing the online pedagogy to students;
- clarifying existing doubts about how to proceed in the course;
- providing a brief overview of the course and the expectations around it; and
- addressing other administrative/logistical issues about the course.

UU204 was later revised and offered as a fully online course in 2014. This meant a refocus on more online engagement and facilitation in the design and delivery process away from the face to face requirements of the previous version of the course.

1.1 The Context and challenges

USP had no institutionalised online orientation package that was specifically tailored for online learners. The existing face to face orientation was heavily geared towards preparing students for life on campus - most of whom were straight out of the predominantly face to face education systems of Pacific Island countries. The existence of an online orientation package for online learners, - if present, existed in small disjointed segments within each Faculty's Student Learning Support Services (SLS). The online orientation for *UU204: Pacific Worlds* was designed to replace the existing face to face orientation in the blended mode and also address a number of issues that the course facilitators experienced during the earlier deliveries of the course. This included in no specific order the following:

- the initial course design did not address several critical pieces of information that students needed to know to get started in the course;
- student's expected information and instructions spoon fed to them, a spill over effect of their earlier learning methods from the school system;
- the teaching staff having to answer similar queries repeatedly; some of which could have been answered if the students had read the course syllabus thoroughly or if they had read responses to similar queries raised by other students in the discussion forums;
- the student's lack of awareness of the support structures available to them within the University or their inability to utilise them online; and
- student's lacking general awareness of online pedagogy and were not fully prepared to learn online.

The volume of information that students needed to process prior to the beginning of the course was massive as it was a generic course and they came from different disciplines and different campuses. Pacific Studies was not everyone's *cup of tea* so to speak; hence, a lot of emphasis was placed on the proper introduction of the course and the pedagogy surrounding its delivery. For instance, the course used the traditional canoe as a metaphor for learning where the students were crew members on the virtual canoe (referred to as the *Vaka*) and the teacher was the *navigator* (captain). The learning process was viewed as a journey aboard the *Vaka* on the seas where each crew member had a role to play to overcome the obstacles (e.g. activities, assessments). The final destination was the successful completion and attainment of a grade.

The CFL course designers had to find ways to present the information and instruction in a manner that would ensure that the students would read and follow through accordingly. They also had to take into account the density of this information and the slow/poor internet connectivity in the region. These factors influenced the decision to go low tech and use existing provisions within the Learning Management System (LMS) , Moodle to provide learners with a game based (and text based) orientation to the course.

1.2 The Amazing Race - An orientation activity for UU204

The concept behind the reality television game, *The Amazing Race*, was adopted for this orientation. Students would go on a virtual race around the South Pacific uncovering clues on Moodle to enable them to progress and move on to their next destination. These clues were in the form of learning materials and instructions that they would have to access and read. The *activity completion* settings of Moodle was utilised to set conditions that would direct the virtual race. The game consisted of checkpoints named after capital cities of four of USP's member countries and each point had a progress bar (see figure 1) which would be displayed together with the next checkpoint once the student fulfilled the conditions of that stage.

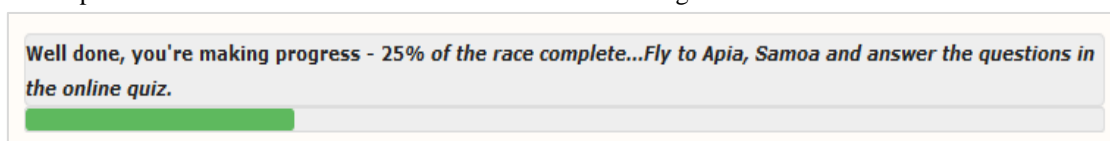


Figure 1: Progress bar for the first checkpoint.

The virtual race begins in Honiara, the capital of the Solomon Islands. This consisted of a web page on Moodle that simply directed students to the core resources in the course page. The Honiara checkpoint (Figure 2) was contextualised with a local greeting and an image of Solomon Islanders dressed in their traditional attire. The instructional language used in this checkpoint was gamified to maintain the gaming illusion.

Check Point Honiara

Halo oloketa and welkam to Honiara, Solomon Islands. This leg of the race requires you to access vital information which will become handy in the next leg of the race and the entire learning journey in Pacific Worlds.

1. View the **introduction** and **navigation videos**.
2. Locate and download the **course outline** - from the "course overview" section- read it thoroughly, you will be assessed on the contents of this document later on in the race.
3. Open the page labelled "**Meet the teaching Staff**" from the "course overview" section and find out who is the course coordinator, determine the coordinator's and your teacher/ Navigator or Vaka Leader's, contact details and consultation hours.
4. Go to the book labelled "**Course Information**" and ensure that you **read through all the sections** (this information is presented using the Book Tool in Moodle).
5. Familiarise yourself with the concept of the **Vaka**, what is it? Determine your




Figure 2: Web page - Checkpoint Honiara


The next checkpoint, Apia (the capital of Samoa) was an online quiz on Moodle. This checkpoint was tailored to test student's knowledge of the requirements of the previous checkpoint with questions such as the ones shown in Figure 3.

<p>How many units are in this course?</p> <p>Select one:</p> <p><input type="radio"/> A. 5</p> <p><input type="radio"/> B. 3</p> <p><input type="radio"/> C. 4</p> <p><input type="radio"/> D. 6</p>	<p>The "life line" of an assessment refers to _____</p> <p>Select one:</p> <p><input type="radio"/> A. The due date or deadline of that assessment</p> <p><input type="radio"/> B. the date of extension</p> <p><input type="radio"/> C. the day the life of the Vaka ends</p>
<p>The mode of delivery for UU204 is</p> <p>Select one:</p> <p><input type="radio"/> A. Face to face</p> <p><input type="radio"/> B. Print</p> <p><input type="radio"/> C. Online</p> <p><input type="radio"/> D. Blended</p>	<p>My first written assessment and its lifeline is _____</p> <p>Select one:</p> <p><input type="radio"/> A. RWP1 & the Lifeline is 28 February @11:55pm</p> <p><input type="radio"/> B. Introduce yourself in the welcome forum</p> <p><input type="radio"/> C. Quiz 1 & the Lifeline is 11th of March @11:55pm</p> <p><input type="radio"/> D. Quiz 1 & the lifeline is 21 February at 11:55pm</p>

Figure 3: Sample questions in the quiz.

Checkpoint Apia (see figure 4) also offered students a chance to have hands-on experience and use the quiz tool on Moodle before actually using it in the assessments for the course. Similar to Honiara, this checkpoint was contextualised with a local Samoan greeting accompanied by a picture of downtown Apia. The gaming illusion was maintained through the instructional language

Checkpoint Apia



Talofa lava and Welcome to Apia, the capital of Samoa. You need to complete this quiz to proceed to the next checkpoint. Ensure that you review your attempt as there are valuable information in there that will help you in this learning journey.

This Quiz is not assessed and does not contribute to your final grade.

Image source: pacifictourism.com - downtown Apia

Attempts allowed: 3

Figure 4: Snapshot of 2nd Checkpoint

The third checkpoint, Kiribati required students to introduce themselves on the Discussion Forum and also raise any further queries about the course. This was to ensure that students familiarised themselves with the Discussion Forums and also collaborate online and apply forum netiquette rules as per instructions in the course.

The last checkpoint in this virtual race was Nukualofa (see figure 5), the Tongan capital. The task of this checkpoint required students to upload a file to the Assignment Drop Box in Moodle. They were to copy and paste their forum post from the third Checkpoint to a Microsoft (MS) Word document and upload it to the Assignment Dropbox. This task was intended to ensure that students developed basic technical skills required of an online learner such as creating and uploading a MS Word document to Moodle, copying and pasting, saving/naming the file and most importantly reading and following the instructions of this checkpoint.

Checkpoint Nukualofa.

Malo e lelei and welcome to Nukualofa, Tonga. In this check point, you are required to copy and paste your contribution to the discussion forum labelled "General Forum" (the requirements from checkpoint Tarawa) to a Microsoft Word document and submit the document it in this Assignment drop box.

Rename the file to your name_Test as this will be the practice when you submit your reflective writing paper in the Assignment Drop Box.

eg Sarome Seeto_Unit 1 RWP

Please note that this activity will not be assessed and is intended for you to practice renaming and submitting the file into the Assignment drop box in Moodle.

image source: Sydney Morning Herald - Tongan Military personnel at the entrance to the King's Palace.




Figure 5: Snapshot of final Checkpoint

2.0 Objectives

This paper examines whether the online orientation (*The Amazing Race*) achieved its intended purposes. Specifically, this paper will:

- assess whether the online orientation improved student's knowledge of the course and its requirements;
- determine if the online orientation contributed to student's online readiness for the course;
- evaluate the effectiveness of the online orientation on student attrition rates.

3.0 Literature review

A literature review focused on the areas of game based learning and gamification, orientation for higher education and student online readiness.

3.1 Game based learning and gamification

Game based learning is largely associated with the use of videos games to support teaching and learning (Perrotta, Featherstone, Aston, & Hughton, 2013). Some studies have discovered that there was no direct correlation between this type of learning and academic achievement. Other studies cited by Perrotta et al (2013) found a strong correlation between improved problem-solving skills and game based learning.

The literature also points to an enhanced version of a game based concept called gamification. Deterding, Dixon, Khaled, & Nacke (2011) defined gamification as, "The use of game design elements in a non-game context". Over the years, the gamification concept has been widely used in business, marketing and most wellness and ecology initiatives. For instance, the Nike+ (Nike plus)¹ app which turns the experience of running

¹ "Nike+ Running App for iPhone & Android. Nike.com.". 29 August 2016, http://www.nike.com/us/en_us/c/nike-plus/running-app-gps

into a game (without immersing into a fully-fledged video game). A review conducted by Hamari, Koivisto, & Sarsa (2014) indicated that the success of gamification depended on the context in which it was used and the users using it. The orientation activity in UU204 closely mirrors the concept of gamification as it uses a number of gaming elements such as rewards, progression and levels to enhance a user's experience in a non-gaming (online learning) context.

3.2 Orientation for higher education

In terms of orientation for higher education, Scagnoli (2001) highlighted that traditionally, the orientation process in higher education was intended to ensure a student's smooth transition from high school to tertiary education. The orientation would also help these group of learners develop independent learning skills at the tertiary level. She further noted the increasing trend of remote learners and Universities offering more distance learning programmes and that traditional orientation would now have to be revised for this new cohort of learners. She identified several factors that needed to be considered when designing an orientation programme for online learners. These factors include:

1. the program of study - students need to know more about their program of study so as to increase their involvement minimising their chances of dropping out;
2. the course – students to be aware of how courses are organised, the assessments, and how the teacher teaches and communicates;
3. technology – students to be aware of the technology used in the course/program and training conducted if need be;
4. social interaction in the virtual environment – students to be familiar with how to engage actively in an online learning community and also be aware of online netiquette;
5. students location/background – the facilitator/designer needs to be aware of the student's geographical location and particularly any cultural issues that need to be considered in the orientation;
6. instructors for the orientation – who will facilitate, is it the lecturer, the coordinator of the online program.

These factors need to be woven together in the programme to create an online environment/ community (as in traditional orientation programmes) that would make the student feel a sense of belonging and reduce their anxiety levels. Similarly, Cho (2012) stated that orientation was introduced to address the various technical, social and academic integration issues encountered by learners, especially online learners who were new to the online environment. A study conducted by Gilmore & Lyons (2016) on nursing students revealed a strong correlation between having a good orientation and improved student retention. However, there is still some contention in the literature about the composition of an effective orientation framework that would prepare students for online learning. While some authors argue that the mode of delivery (online, blended or face to face) of this orientation is vital, others have focused on the relationship between online orientation and student performance. There has been very little written on how to develop an effective online orientation package that is specifically tailored for online learners. Cho (2012) did mention that institutions rarely shared this information, and most of the existing online orientation focused more on administrative and technological issues and were not systematically designed from the perspective of student learning.

3.3 Student online readiness

Online or e-learning readiness is the third aspect of this literature review. Mosa, Mahrin, & Ibrahim (2016) made a comparative analysis of the existing models for assessing e-learning readiness. The analysis indicated that each model placed particular emphasis on certain items, for instance, Omoda & Lubega (2010) outlined content, pedagogy, technology, culture, and awareness as important factors. Alshaher (2013) considered technology, content, platform support, documentation and style as important factors to consider for online readiness. Most if not all of these models view e-learning readiness from an institutional point of view to assess whether the institution was ready or not. The model developed by Akaslan & Law cited in Mosa et al (2016) is relevant for this study as it looked at e-learning readiness from a broader perspective using a three-phased approach. The first phase was

referred to as the *readiness phase* where a student's e-learning readiness was determined by the interaction of four factors which are the personal, content specific, technological and institutional. For the purposes of this paper, this model was modified to suit the current context as the course was already online and the researcher was trying to evaluate if the orientation activity for UU204 would ensure students enrolled in the course became e-learning ready.

4.0 Methodology

The orientation activity in this course was designed using the constructivist framework where students were expected to create meaning out of the gamified experience (via discovery learning) and use it to aid their transition into the online learning environment. Hence, a mixed method approach was chosen to enable the researcher to closely examine the orientation activity in the course and other interaction, actors, and factors that revolved around this phenomenon. The study was exploratory in nature and the data was collected and analysed using a mixed methods approach. A modified version of the model developed by Akaslan & Law (2011) was used to determine if the orientation activity had developed some form of e-learning readiness for students. Unlike the model, institutional readiness was not examined as it was beyond the scope of this paper.

Data from three different sources were collected and analysed. These sources included the responses from the online survey by students, the responses to the semi-structured interviews of the teaching staff and the student academic data which was supplied by USP's Student Administrative Services (SAS) upon request. The online survey on Moodle was used to gather the general student perception of the orientation activity. There were seven questions in total, five of which were close ended and the remaining two open ended. For the purpose of this paper, only 5 out of the 7 questions were analysed because (for the remaining two), one was irrelevant and the other was intended to solicit feedback on how the orientation activity could be improved. The responses from the open ended questions were grouped into common themes (Figure 7).

The student data was collected to determine the number of students who registered for the course. Further analysis was done on the same to determine the attrition rate and the grade distribution. The researcher was particularly interested in the number of students who received an E grade and the reasons behind the failure. The data on "reasons for failure" was supplied by the course coordinator. It was difficult to acquire data on *the reasons for dropping out* of the course as some of these students were no longer enrolled at USP.

The course coordinator and one other teaching staff were interviewed. The semi-structured interview was intended to triangulate some of the data from the student online survey and to also try and ascertain the reasons behind the attrition rates. Broad interview questions looked at:

- how has the orientation activity assisted the teaching staff;
- the course coordinator's views and feedback about the orientation activity;
- the nature and type of queries that teaching staff would receive from students at the beginning of the semester whilst the orientation activity was underway;
- student's perception of the orientation activity;
- the relationship between student's level of participation in the orientation activity and attrition rates; and
- the relationship between student's level of participation in the orientation activity and their academic grades in the course.

The researcher examined the orientation in the course over two semesters, Semester 2, 2014 and Semester 1, 2015 to see if it made an impact on student online readiness and attrition rates. This time period was chosen because the orientation activity was introduced and first implemented in Semester 2, 2014 and there was limited data available after Semester 1, 2015. The number of students enrolled in the course was 983 and 571 respectively for the two semesters. The survey was built into the structure of the *Amazing Race* (orientation activity) and students would have to answer it first before the contents of the first unit was revealed; this resulted in a good response rate for both surveys reaching 90-100% participation.

5.0 Results and discussion

The findings are presented below, followed by a discussion based on:

- the analysis of the online survey data outlining student's perception about the Orientation Activity; and
- analysis of the student retention rates and course completion status.

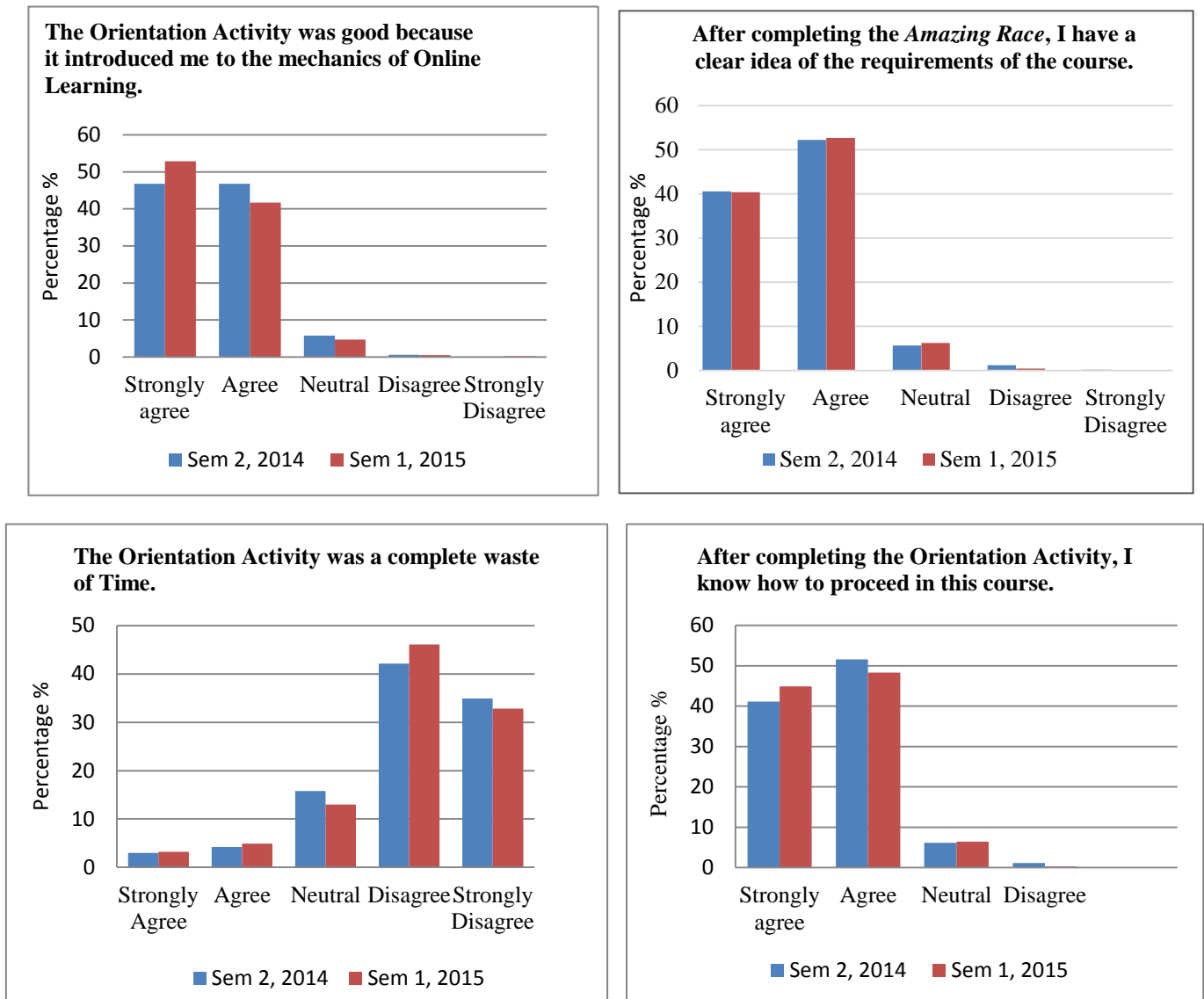


Figure 6: Responses to closed ended questions

The results show that the orientation activity had introduced students to the mechanics of online learning. Students now realise that they are responsible for most of their learning and they need to quickly develop certain skills that will enable them to succeed in the course. Apart from developing technical skills, they need to be able to join or form a social network in an online community, develop other personal skills such as good time management, become active readers and self-propelled learners.

The bar graphs above also shows that students are now aware of the requirements of the course and how to proceed. In this context, the term *requirement* is multifaceted referring to a number of expectations/requirements in the course such as students' awareness of the technological skills that is required of them in the course,

expectations of how one ought to integrate into the online environment, the workload and amount of time one needs to dedicate to the course, how the course was going to be taught, how to get started in the course and many more. Cho (2012) did point out that most online orientation programmes in higher education were developed to address issues similar to the ones encountered by students in this course, particularly the concept of online integration.

Students were asked to identify two aspects of the orientation activity that they liked (figure 7). Approximately 38% felt that it helped them acquire skills for online learning, 33% felt that it improved their awareness of course requirements, 21% found it interesting and a fun, creative game concept, while 8% felt that it enhanced awareness of other Pacific island countries.

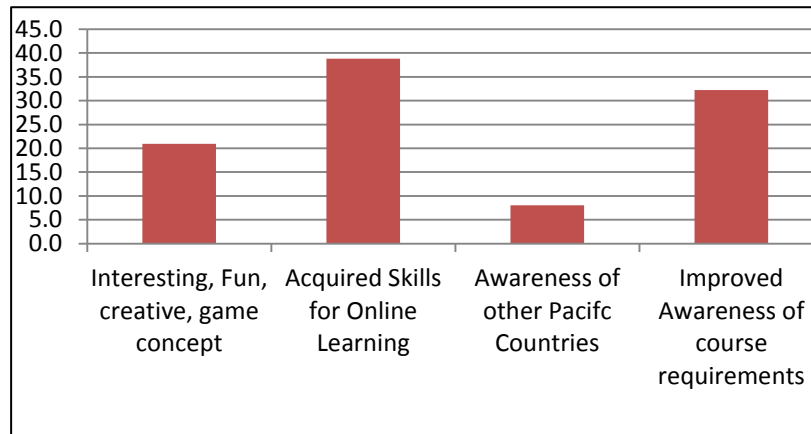


Figure 7: Perceptions about the orientation activity

Collectively, the data in the above figures indicated that the students had developed some form of e-learning readiness. The data shows that the orientation activity really helped students grasp the mechanics of online learning and also gain a clear understanding of what is expected of them in the course. The literature on online readiness stresses the importance of several key factors when assessing e-learning readiness, Alashaher (2013), Omonda & Lubega (2010) and Akaslan & Law’s model commonly referred to technology and familiarity with content as a key component (amongst other factors) to determining the extent of online readiness. This was consistent with the findings of this study particularly when comparing it to the modified version of Akaslan & Law’s model that specifically looked at personal, content specific, and technological factors. The data shows that students have developed certain personal habits that would assist them in their transition to the online environment, additionally the data also shows that the technological aspects of the model and familiarity with the content were also addressed in the orientation.

Student attrition rates and academic Success

Semester of Offer	Students Registered	Students Graded	Attrition Rate	% Attrition Rate	Students with E-Grade	% of E	E + Attrition	% of E+ Attrition
Sem 2, 2014	993	983	10	1.01	80	8.14	90	9.1
Sem 1, 2015	578	571	7	1.21	56	9.81	63	10.9

Table 1: Student academic data

The table above shows that the attrition rate for the course was quite low and it ranged from 1% to 1.2%. As previously mentioned, the orientation sessions used to be a face to face affair until Semester 2, 2014 when the course became fully online; interestingly, the attrition rate for this period increased by 0.5%. On the other hand, the number of students receiving an E grade continued to increase over the past offers of the course. The results show that the introduction of the online orientation (in Semester 2, 2014) had no significant impact on neither the attrition nor failure rates. The course coordinator did mention though that there were other factors that contributed to these results and these are outlined in Figure 8 below.

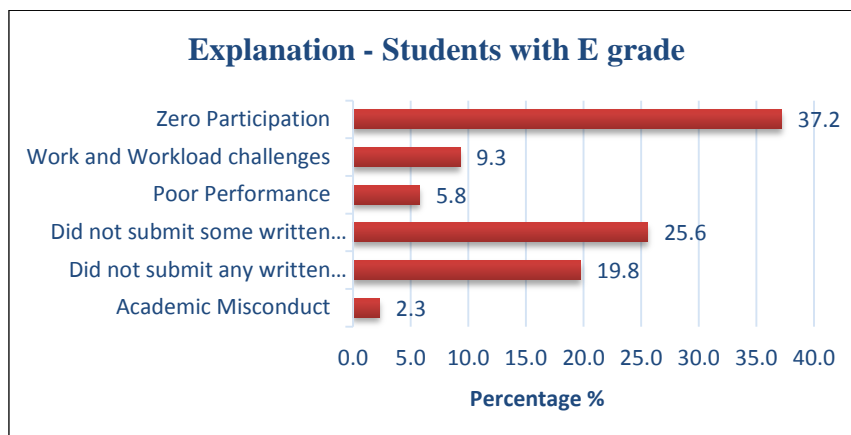


Figure 8: Why students got E

6.0 Conclusion

The purpose of this paper was to examine whether a game based orientation had any significant contribution towards student attrition rates and student online readiness in a fully online course. The concept of Gamification is relatively new and its use in an online orientation proved effective in this instance; 21% of the students enjoyed the gaming concept and felt that they would not have completed the orientation if it wasn't for this innovative and fun approach. Some did mention that the entire course should have been designed using this approach.

All in all, the online orientation prepared students for the transition into an online learning environment by inevitably helping them develop certain skills that are critical for online learning. Akaslan and Law's (2011) model pointed out the factors that needed to be assessed and the results indicated that all three factors (personal, content specific, and technological factors) were addressed in the orientation package. The data showed that majority of the students had developed most of the required personal and technical skills to effectively make the transition to the online platform. Additionally, the students were familiar with the content and the expectations around it.

However, it was difficult to draw any substantive conclusion between student's participation in this orientation activity and the attrition rates and failure rates for the course as there were other factors at play. These factors include access and connectivity issues in the regional campuses, financial issues faced by students - inability to pay the fees and hence have dropped out, part-time students finding it hard to cope with the demanding workload of the course and their respective jobs, and the rare case of academic misconduct- where students automatically get a zero for cheating. The study revealed that an effective online orientation was instrumental in shaping student's online readiness. The fact that the orientation was gamified proved equally vital as it ensured students participation and interest was maintained. However, further analysis needs to be done to verify if this level of readiness was also enough to sustain an online student to complete and pass the course.

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