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Enablers and Barriers of Online Learning: A Study of Students' Narratives

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Abstract: Since stepping into education delivery, technology continues to revolutionise education, responding to access and equity. This has made online learning to be the choice for access and equity like never seen before. Unfortunately, it has not only provided solutions but also introduced issues that have created the divide in technology and online learning for learners and institutions. The study explored online learning in the Solomon Islands from students' narratives at the Solomon Islands National University via *tok stori*; seeking to understand what they perceived as enablers and barriers of online learning. The study employed the sequential mixed-method approach and was guided by the theories of transactional distance and interaction, with the latter's extensions. The findings show that the level and strategies of support in administration, academics, and technology determine what transpires as an enabler or a barrier to online learning.

Keywords: online learning, interaction, course design, learner autonomy, learner integration, *tok stori*

Highlights

What is already known about this topic:

- Course design plays a critical role in determining enablers of online learning
- Developing the most relevant and appropriate course design is a concern
- The lack of digital skills and competence is a barrier to online learning
- There is lack of interaction in OL, therefore, not preferred by students

What this paper contributes:

- Participants highly favoured content presentation in text, video and audio
- Course structure emerged as a crucial factor in improving enabling factors in OL
- Establishes social integration of students as a contextual phenomenon
- Extends *tok stori* beyond South Pacific

Implications for theory, practice and/or policy:

- Providers of OL can adopt contextual approaches to course structure
- A standard is required to guide the design of online learning that captures local contexts
- The delivery of online learning requires to be regulated to respond to local requirements.

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Introduction

This study explores the factors that influence students' perspectives on online learning (OL). OL, a mode of distance education (DE) facilitated by information and communication technology (ICT), has revolutionised the educational landscape. However, challenges exist due to the transactional distance (TD), which encompasses geographical, psychological, and communication distances (Moore, 1993, 2013). If not managed properly, these challenges can become barriers and could lead to student withdrawal. At the University of the South Pacific (USP), Pacific Islands (PI) students have demonstrated that technology is a driving force in OL (Johnson et al., 2021; Reddy et al., 2022). However, while technology access may not be an issue, unstable internet, unreliable tools, and lack of basic digital skills (Kolodziejczyk et al., 2020) remain significant hurdles for students in successfully completing OL programs. Despite these challenges, some of the PI students are eager to engage in OL (Raturi, 2018, 2019; Prasad et al, 2021; Reddy et al, 2022), often due to their long-term access to mobile devices. Course structure is a crucial element in the discussion of enablers and barriers of OL. It constitutes instructional methods, pedagogies, types of technologies, and support as a facilitator of students' satisfaction and improved performance, as highlighted by Kauffman (2015).

Literature

Course Structure

Course structure plays an overall role in the success of OL. Learners of today's generation are adjusting with their specific needs, hence, are more in a different perspective in the way they approach their learning. This requires providers and instructors to respond appropriately to the design requirement of learners. It is on this viewpoint, Raturi (2019) highlighted the need to re-design curriculum to one that considers students' preferences with respect to each LE; an important consideration for OL and more so in the case of the Solomon Islands National University (SINU), which is just starting to venture in this area. Sze-Yeng and Hussain (2010) on the other hand have emphasised a design of course content that eliminates jargons and verbiages, an approach they described would promote self-discovery and life-long learning, as it will increase the interest of students to engage in OL. A strategy Forde and O'Brien described as a high-quality design of learning materials that will significantly hone and support students' academic performance. Creativity is therefore, important in the presentation of course content (Narayan & Singh, 2020), for instance, the presentation of contents in audio-visual format that has been seen as positively impacting students learning (Sun & Chen, 2016). This is the benefit of technology driven model, providing the opportunity for students to come back to it later to asynchronously interact with the content (Almaiah & Alyoussef, 2019; Mamun, 2018).

The recognition of social integration of students into institutions' social environment in a course structure plays a major role in honing academic performance of students in OL (Tinto, 1975; Styron, 2010; Raturi, 2019). In the context of the study, it is crucial as people do not necessarily intrude into others' space and time, without established relationships, a condition in the study context will open up fundamental opportunities for individuals to become part of each other's world (Sanga et al., 2018; Sanga et al., 2021). A similar preferred structural consideration is the social presence of instructors (Katsarou & Chatzipanagiotou, 2021), which the scholars reported have positively impacted learners' participation. Thaman (2013) illustrated the same for Pacific people, who learn and communicate with one another in their own cultural orientations, thus, she argued for the consideration of cultural nature of people in the design of an education model, an approach (UNESCO, 2013 as cited in Ally et al., 2014) supported. This is the same with the standard of English used in learning materials. In second and third English speaking country like Solomon Islands (SI), plain English is more appropriate in instructional design, as supported by (Murray et al., 2012). It is the way of Pacific people to personalise certain aspect of life. An example as reported on by Raturi (2019), that students still prefer printed materials for ease of access of content even in OL.

Appropriate technology is another element of course structure that is highly recommended for easy and friendly manoeuvre according to (Murray et al., 2012; Liu & Pu, 2020 as cited in Kara, 2021; Van Wart et al., 2020). The selection of unfriendly technology has suffered some OL courses (Murray et al, 2012) because of the difficulties in using the technologies. Adding to this, is the continuous changes in technology. This dynamic development of technology makes current knowledge and skills become obsolete which require providers to install renovation system to keep technology relevant (Orlando & Attard, 2016; Azizan et al., 2022) for current needs.

Interaction

Interaction was found to have a big influence in sustaining students' motivation in OL, which Katsarou and Chatzipanagiotou (2021) have stated is crucial in knowledge acquisition, development of cognitive skills and intrinsic to effective instructional practice and individual discovery. However, the positive impact of interaction is influenced by course design (Baber,2020; Raturi,2019), a component that plays a critical role in encouraging deeper learning experiences for students, and leads to positive learning outcomes. In a study (n = 945; students based in all 12 USP member countries) at the USP by Raturi (2019), the participants have indicated to prefer learner-learner (LL) and learner-instructor (LI) interactions. This result could largely be influenced by the conducive environment that encouraged the quality of LL and LI interactions. Incorporating a variety of formats in course design enhances learner-content (LC) interaction (Maning & Black, 2017). This is precisely what Moore (1989) articulated in his theory of interaction, stating that if the different types of interaction are considered in the course design, across OL, it can significantly reduce the TD and students misunderstanding, and consequently promote autonomy among students.

Learner autonomy

Learner autonomy is the ability of learners to take charge of their own learning (Gunes & Alagozlu, 2020) an aspect of learning process. Raturi et al. (2011) described autonomy as an important factor that leads to students' motivation. Active learning is key to learner autonomy, James (2021) affirms this as a fundamental information for instructional designers for enhancing the course design process. According to Narayan and Singh (2020), OL has improved learners' locus of control and autonomy at the USP, a result the scholars participants acknowledged to the space provided for independent learning and awareness of the need to search for their own content materials online. Despite, the different arguments put forward by various scholars in learners' autonomy, they all point to, course structure; a viewpoint reinforced by (Kara &Yildirim, 2020). Moore (1993) expressed that for this reason much time and effort are required in the process of designing and structuring. Students' satisfaction is influenced by course structure (Raturi, 2019), which highlights the important role course structure plays in building a successful OL. Powell and Leary (2021:521) referred to L-C interaction as the "essence of education", which implies its importance in acquiring and achieving the purpose of the transaction of teaching and learning. However, this depends on the thoughtful selection of the systems of pedagogical approaches that encourages learners' confidence and autonomy to certain degree to interact with each other in a deeper sense (Manning & Black, 2017).

Theoretical Background

This study is underpinned by Moore's Theory of Transactional Distance Theory (TDT) and the Theory of Interaction (TOI), and the extensions by Hillman, Willis and Gunawardena (1994) and Sutton (2000). The TDT does not just introduce the notion of the physical distance in DE but also the cognitive and communication spaces that can be huge issues as well. It is what Moore (1980) delineated as psychological and communication spaces; spaces of potential misunderstanding between instructors and learners. The theory emphasized dialogue, course structure and learner autonomy as dimensions of OL.

The TOI is a supportive theory to the TDT with respect to dialogue dimension. It articulates the three types of interaction, the Learner-content (LC), Learner-instructor (LI), and Learner-learner (LL) interactions. According to Moore (1989) LC interaction is the idiosyncratic of education. Andersen (2013) found LI interaction to have a significant statistical relationship with learner-social media interaction, which the author relates it to students' course satisfaction. LL interaction is a dialogical process learners engaged in synchronous and asynchronous interactions through different communication mediums. Learner-interface (LIn) interaction lies in the space provided for by technology, a development that made OL possible. Vicarious interaction (VI) is commonly experienced with introverted individuals (Sutton, 2000). It occurs when introverted individuals or those who decide to only listen without taking part in any form of discussions, but engage in a deep observatory process, analysing information and learning.

Methodology

The study used a sequential mixed-method approach, incorporating descriptive statistics and thematic data analysis. The methodology was based on Morse's (2010) research methodology concept of a core and supplementary component. The core component employed social constructivism, (Merriam et al., 2003) emphasizing participants' experiences. This approach was well-suited for the study's focus, that is, an oral society where knowledge is shared through dialogue.

Research Model/Design

The research design included two phases. The first phase (supplementary component) employed survey questionnaire to gather demographic and assess digital skills; the digital skills assisted with ensuring participants possess a reasonable skill to then participate in the second phase. The first author as the indigenous researcher made an attempt to decolonize the research space in this context utilizing indigenous methodology instead of a western paradigm for the core component of this research; an attempt similar to Farelly and Nabobo-Baba (2012). The second phase (core component) employed *tok stori*, where individuals engage in dialogues to share narratives and emotions as a crucial aspect for truth-telling (Sanga et al., 2021). It is a relational approach that fosters understanding and holistic individual development (Sanga et al., 2018). In the researcher's cultural context in the Reef Islands, in the Temotu province of the SI, different terms are used to describe *tok stori* based on the cultural significance of storytelling. Examples include *kwa'kalou*, which refers to an important teaching session led by elders, *peniebe kil'lolopa*, which denotes storytelling or meetings with older individuals or traditional court hearings, *opoa*, meaning teaching or advising, *poake*, which signifies teaching, and *kulpopoa*, representing continuous teaching or preaching. These various forms of *tok stori* encompass monologue, dialogue, and multilogue conversations, with no specific time limit but dependent on the leading party in each conversation; the *tok stori* with each participant took between 1-2 hours. This whole process of *tok stori* makes it a method unique for rich data collection in the context of Solomon Islands.

Data Collecting Tools

The survey questionnaire used in phase 1 was adapted from Raturi et al. (in progress); it was tailored to gauge participants digital skills and competencies level and to ensure they qualify for phase 2. They were administered on a one-on-one basis to clarify and help the participants better understand the intentions of the questions, in the aim to gather responses that better define learners' digital and competency skills level. The instrument for phase 2 was discussed and consulted with three teaching professionals from SINU to maintain its validity and reliability. Despite being pre-prepared, they were only used as guides. The probing questions were written in English, however, it is contextual with the *tok stori* method (Sanga et al., 2018) to rephrase and paraphrase certain questions in the storytelling process, into pidgin English (Solomon pidgin) to provide more clarity and meaningful responses from individual participants, as it provides a wider space for deep relational conversation to occur. There were

other discussions held outside the *tok stori* sessions that are also considered, from other individuals who have studied using online mode; therefore, each session generally takes longer than the standard interviewing techniques elsewhere.

Sampling or Study Group

The study employed convenience and purposive sampling methods. Convenience sampling was used in phase 1 due to time, cost, and proximity considerations to the participants. There were twenty participants in phase 1. Since all the digital skills and competencies of the first twenty participants were satisfactory and above, there was no need to continue with phase 1. Therefore, all the twenty participants were included in phase 2. The study focused on online undergraduate students at the main campus of SINU in Honiara. Participants were given informed consent forms and requested to sign them if they agreed to participate. Ethical clearance and approval were obtained from the USP and SINU before commencing data collection.

Data Analysis

The data collected in phase 1 were processed utilising excel calculation and presentation using descriptive statistics, tables and graphs. Thematic data analysis process was used for the conversations from the *tok stori*, whereby common and repeated themes and phrases were identified and categorized. Thematic analysis epitomizes data in great detail and deals with diverse subjects by interpretations (Boyatzis, 1998). It provides a systematic element to data analysis and allows the researcher to associate an analysis of the frequency of a theme with one of the whole contents (Mohammed, 2012). The research uses Colaizzi's seven steps of analysing qualitative data, including the additional step (Edward & Welch, 2011).

Validity and Reliability

Tok stori, a well-established research method in the Pacific, is utilized in the phase 2, the core component of this study. In ensuring the trustworthiness of the *tok stori* instrument, thorough discussions and consultations were undertaken with three experts in the administering and application of *tok stori* as a method of data collection. Their dual capacity as both educators and experts in the indigenous data collection methodology assisted with refinement of the guiding questions for the dependability and trustworthiness. The participants validated their respective transcriptions and its interpretations as is the case in *tok stori*.

Limitations

The data is narrowly concentrated in Honiara thus, would not provide a better learners perspective across Solomon Islands. Thus, further research into the study topic across the establishment of SINU distance study centers' is worth considering. This should provide more robust and comprehensive data that captures different samples, and one that would gather the disparity within SI rural settings.

Findings and Discussions

The survey results are presented in tables and graphs with simple descriptive statistics calculations. The thematic analysis of students' narratives was categorized into the three a-priori themes (as guided by Moore's TD theory) course structure, autonomy, and interaction and sub-themes as indicated in the table 5. The participants are given pseudonyms as P1, P2, P3…P20.

Survey findings and discussions

Table 1 Demography of the students

		Marital Status		Parental Status		Employment Status		
Age Group	**Gender**	**Single**	**Married**	**Yes**	**No**	**Emp**	**Self-emp**	**Unemp**
18-23	F	4	0	1	3	0	2	2
	M	1	1	0	2	0	0	2
24-28	F	3	0	1	2	0	1	2
	M	2	1	0	3	0	0	3
29-33	F	2	3	4	1	0	5	0
	M	0	0	0	0	0	0	0
39-43	F	0	1	1	0	1	0	0
	M	0	0	0	0	0	0	0
44+	F	0	2	2	0	0	0	2
	M	0	0	0	0	0	0	0
Total		**12**	**8**	**9**	**11**	**1**	**8**	**11**

Figure 1 indicates 60% of the participants are 28yrs or below, a fairly young group. However, over 44 in the sample are women which indicates their perseverance to continue their study.

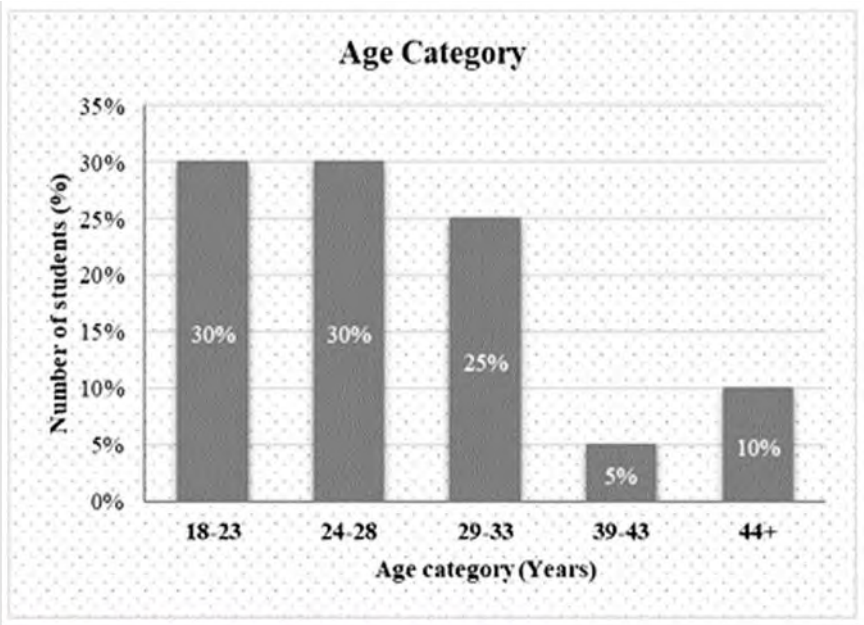

Figure 1: Number of participants in the age group

Table 2 Experiences of students in the print mode, face-to-face, blended, and online mode.

Years	Print	F-2-F	Blended	Online
Less than 1	5%	0%	0%	100%
Less than 2	10%	5%	85%	0%
Less than 3	15%	5%	15%	0%
More than 3	70%	90%	0%	0%

Note: Blended in this case is a combination of Print and F-2-F

The table also shows that 100% of the participants have had less than a year experience in OL and 85% of them have indicated to have used print and face-to-face mode in the last two years. This indicates how well-placed are the students to delineate the different pedagogies used in what SINU refers to as blended and online learning.

Concerning the ICT skills and access, table 3 displays ICT access and frequency of using technology. It was satisfying to note that all the students had access to some kind of device with internet access, an enabling feature for online learning.

Table 3: Information and Communication Technology Access and usage skills

	HOURS				
	≤4hrs	**≤10hrs**	**≤15hrs**	**≤20hrs**	**20+hrs**
Number of hours students spent on ICT tool	8	1	6	2	3
Percentage	40%	5%	30%	10%	15%
Number of hours students spent on the internet	7	3	5	2	3
Percentage	35%	15%	25%	10%	15%
	ICT TOOLS STUDENTS CONSTANTLY USED				
	Laptop	**Smartphone**	**Removable Storage Device**	**VoIP Services**	
Number of participants	4	20	9	20	
Percentage	20%	100%	45%	100%	
	LEVEL OF ACCESS TO INTERNET AND INFRASTRUCTURE				
	Very Poor	**Poor**	**Average**	**Good**	**Very Good**
Internet connectivity level	2	1	6	3	8
Percentage	10%	5%	30%	15%	40%
Level of infrastructure near students	0	1	7	5	7
Percentage	0%	5%	35%	25%	35%
	TYPES OF INTERNET SERVICE STUDENTS HAVE ACCESS TO				
	4G	**3G**	**2G**	**Wifi**	**Personal Hotspot**
Forms of internet connectivity students' access	15	19	13	12	10
Average types of internet services accessible by students	75%	95%	65%	60%	50%

The data shows that 100% of learners said they are using smartphones and VoIP services, and 85% said they have reliable internet connectivity. This includes the telecommunication network that provides 4G and 3G networks, and personal hotspots that accounted for 95%, 75%, and 55% respectively (Table 3).

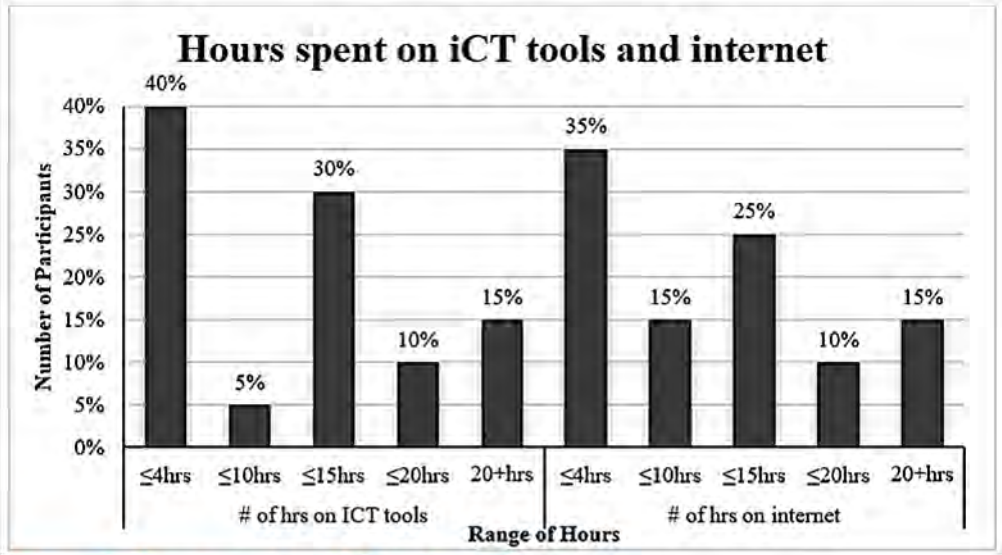

Figure 2: Hours spent on ICT tools and Internet

The table 4 illustrates that 75% have better than average computer skills, and 80% show good internet skills.

Table 4: Computer and Internet Usage Skill

N=20	Computer Usage Skill		Internet Usage Skill	
Occurrence	Average	Percentage	Average	Percentage
Never	3.7	18%	2.5	12%
Seldon	1.3	7%	1.7	8%
Sometimes	5.3	27%	2.9	15%
Mostly	3.4	17%	4.0	20%
Always	6.2	31%	8.9	45%

The results of the survey show that the individuals in the sample have good digital awareness, access, skills and competencies. Therefore, they are qualified to participate in the second phase which is the core part of the study, the *tok stori*. Hence, there was no need to seek out additional participants. Despite learners' digital skills and competencies meet the requirement to participate, they are not necessarily ready skills that they could apply in their OL. Nevertheless, their skills experience, awareness, and knowledge of ICT qualified them to participate in the core part of this study.

Tok Stori findings and discussions

In OL the TD between learners and institutions exists over the internet, thus, relies on technology to mediate engagement and communication (Weidlich & Bastiaens, 2018). It can have a huge psychological impact on learners. The concept of TD (Moore, 1980) includes not only the physical distance but also the cognitive and communication space in distance learning. Moore says TD is a space of potential misunderstanding between the instructor's inputs and those of the learners. This theory covers three fundamental dimensions: dialogue/interaction, course structure, and learner autonomy. The participants in this research have provided detailed accounts of their experiences with the SINU OL. They have also shared their insights into the three themes of the study, of which sub-themes transpired from each three a-priori themes as shown in Table 5; the survey responses were seen to be affirmed by the participants' responses in *tok stori*.

Table 5: Themes and Sub-themes

Theme 1: Course Structure/Design	Theme 2: Autonomy	Theme 3: Interaction
1.1. Responses from 21st – century learners	2.1. Locus of control	3.1. Learner-instructors interaction
1.2. Cost a barrier to online learning	2.2. Supporting features enabling autonomy	3.2. Learner-content interaction
1.3. Design features enable learning		3.3. Learner-learner interaction
1.4. Information and Communication Technology Infrastructure		3.4. Learner-interface interaction
1.5. Prior skills and competencies		3.5. Vicarious interaction
1.6. Required skills and competencies		
1.7. Learners' integration		
1.8. Teacher presence		

1 Course Structure/Design

The significance of Course Structure and Design cannot be overstated, as it serves as a pivotal factor influencing the success or failure of an online learning model. Recognizing this, the Solomon Islands National University (SINU) has carefully tailored its online model to embody an archetypical framework that fosters motivation and persistence. This is achieved through the incorporation of diverse pedagogical approaches and technology-enabled learning, actively promoting meaningful interactions. A crucial aspect of this approach is the meticulous design and development of learning materials, a viewpoint substantiated by (Forde & O'Brien, 2022). This study aligns with the perspectives voiced by learners, who emphasize the paramount importance of course structure, particularly in fostering interaction and its integral role in shaping the intellectual processes of students.

1.1 21st-Century Learners

Table 1 reveals that participants, mainly born between the 90s and 2000, are technologically inclined and receptive to innovative learning methods. These learners, were motivated by the OL's introduction of new skills, demonstrate a high level of independence. As one participant expressed:

> P6: "…Oh yes, this online thing. I have been owning a mobile phone for some time now but that's it…... but when I started this online learning, it gave me a different experience and it got my interest".

Recognized as self-motivated and technology-ready (Kumi-Yeboah, 2018; Henritius et al., 2019), technology natives demand institutions invest in technology-enabled learning. Figure 1 indicates a majority of millennials, foreseeing a future of tech-savvy, independent learners and this is what was apparent in the *tok stori* responses.

Online learning technology, a potent educational tool, offers benefits like accessibility, flexibility, and increased interaction (Irvine et al., 2013; Almaiah & Alyoussef, 2019). For example:

> P20: "I think…...umm, this is the way forward. Online learning is the way forward, for our people…., we can use any devices we have, therefore, it is very good…and yes, it also helped us to access materials on our own……It makes us take more responsibility of our own

> education…. sometimes I have to think outside the box, critically look at what I access online, ya, so it is really good".

The study found widespread access to smartphones (100%), laptops (20%), removable devices (45%), and VoIP services (100%) among participants (Table 3). This reflects the need for interactive pedagogical approaches adaptable to changing circumstances, aligning with the preferences of technology-driven 21st Century Learners (Bernhardt, 2015). Table 3 also provides the tech-savvy nature of individuals, showcasing their awareness of various internet connectivity services available to them.

This study has revealed certain pedagogical barriers to OL; two of which are the absence of course outlines and inconsistency in courses within the same program:

> P1: "……without any course outline it doesn't help with time, ..., you know. ….. I mean in relation to what to do throughout the semester, …. what to read, when assignments are due. Such a structure is very good. You just follow what the instruction says…...but it would be good to provide an outline to help with the time factor".

The other is the lack of feedback in OL, which negatively impacts cognitive progression since there is absence of direction and guidance. When tutors are absent from asynchronous discussions, the purpose of OL becomes unclear:

> P7: "When I communicate with my tutors or lecturers, they never provide feedback, therefore, I do not know if they have received my assignments or the queries".

Despite the 21st Century Learners are being encouraged by the use of technology for learning, it is important that the appropriate support is provided throughout their learning journey. Hernández-Sellés et al. (2019) expressed that organizational, emotional and educational support provided by instructors are elements of teacher presence and sustain interactions, communication and individual acquaintance between learners. As the discussion delves into the structural look of an online learning model for a 21st Century Learner, the realisation of relationship of the different elements of an online learning mode cross paths as one element cannot be isolated from another.

The language barrier, with English not being the first language for most Solomon Islanders, also hinders effective interaction and understanding of written instructions, causing distraction in learning:

> P20: "I only encounter problems when tutors use words or terms that I am not aware of; …they should explain such words or use words that I 'm familiar with so that learning flows. Yah, so it frustrates me when this happens".

A 21st Century Learner in a second and third English speaking nation would find English Language as a barrier to learning. This therefore, should be a consideration in the OL model design. Murray et al. (2012) also insisted on this saying that students preferred course contents that are straightforward, which this study believes includes straightforward use of English Language.

The lack of social integration in OL leads to feelings of isolation and disconnection among students, negatively impacting their motivation and engagement. Thus, students expressed the need for activities that promote interaction with instructors, peers, and staff to build relationships. This is a reason why OL course structure and design needs to be structured in a way that promote minimal dependence to increase motivation. In the study context, social integration activities are very important to be part of the structure and design. Styron (2010) also pointed to the importance of social integration in education, stating that being part of an academic institution offers opportunities for personal and social growth. Styron also highlighted that student are more likely to succeed when they have a supportive community facing similar challenges.

1.2 Cost a barrier to online learning

Cost is a major obstacle to OL in the SI, where a significant portion of the population lives in poverty. According to the World Bank (2022), about one in seven households cannot afford to eat for an entire day, and poverty is expected to affect 60% of the population. This dire economic situation has a negative impact on families and also affects students' ability to engage in OL. The high cost of internet services in the SI, as highlighted in the Telecommunication Commission of Solomon Islands (2020), further exacerbates the problem. Although there has been a decline in data costs, the country's socioeconomic conditions hinder widespread participation in the telecommunications market. The survey data shows that 15% of students have poor internet connectivity, and only 25% can access the internet for more than 16 hours. These findings support the notion that cost is a significant barrier preventing students from accessing ICT tools and the internet.

> P1: "I think the University must…, consider us students with money problems. …the university must provide students with Tablets or Laptop and sell them to us at a price that we can afford… I used to say, I want a laptop. But to buy it is another issue, the cost… If SINU wants to sell these devices to us, then look at a price tag that we would be able to afford, maybe monthly instalments to make it easy for us".

Access to suitable technology for OL is limited, and the cost factor/socio-economic status aggravates the situation, as reported by various studies (Johnson et al, 2021; Narayan & Singh, 2020; Raturi, 2019; Whelan, 2008).

1.3 Design Feature Enabling Learning

Learners emphasized the critical design aspects that influence OL. Cited are some of the views:

> P1: "……without any course outline it doesn't help with time, ..., you know. In terms of assessment and activities, I'm happy with them…...I'm happy with the kind of structure where things are clear and easy to understand. I mean in relation to what to do throughout the semester, you know…. what to read, when assignments are due, ok. Such a structure is very good. You just follow what the instruction says…...but it would be good to provide an outline to help with the time factor".

> P4: "Course structure is good. The only thing is the failure of tutors to provide an outline to us at the beginning of each semester…….. The failure of not returning marked assignments is another thing to consider, the arrangement of notes on Moodle… they must be properly organized so that when we download them onto our devices, we know which is which. Giving assignments in groups is another good thing but minimize the membership to 3 maybe…...Too many would be difficult to work with".

Design features, as expressed by participants, shape the overall online learning experience and define the quality of a particular online mode. Several participants highlighted the importance of a clear course structure, including the provision of course outlines to manage time efficiently and effectively. Contextual aspects, such as the preference for hard copies of learning materials, were emphasized, aligning with prior studies at the University of the South Pacific (Raturi, 2019). As articulated by:

> P8: "Ok for me, I learn best when someone is presenting…. soft copy of materials is ok, yah, I can read from my husband's laptop, but in my experience, I learn best when I hold on to a hard copy".

Time management during virtual classes emerged as a concern among learners, echoing sentiments by researchers (Heirdsfeld et al. 2011; Johnson et al., 2021). A participant stated:

> P19: "Online learning is good; however, I feel that there is not enough time…. like during the virtual classes while the instructor is teaching, we also have ……huh…some students asking questions. When the instructor replies, time is kind of running out and the next instructor would be waiting on the other side for his or her class. For me this is frustrating because I don't get what I am supposed to know in that class…. SINU must consider this."

Participants identified various design features enabling online learning, including user-friendly course materials, a well-organized community of learners, and the presentation of content in text, video, and audio formats.

> P11: "Man, the way the university designed its content materials are really good. The text content complemented by video is the best way to go. It is really…. huh…really good. It helped me better understand my content and gave me confidence".

> P2: "The content is good. I understand the way tutors have written the content, just that certain words used need me to look up a dictionary to know it, which frustrates me when there is no dictionary……. The videos that were provided complemented the text and therefore, very good….it makes me understand the content better".

The importance of clear instructional goals, outlined course purposes, and the provision of recorded lectures were highlighted as essential design features by learners. These features contribute to mitigating transactional distance and fostering a community of inquiry, self-efficacy, and meaningful learning (Raturi, 2019).

Technology's impact on course design, particularly in audio and video presentations, was acknowledged for addressing issues of absenteeism and providing additional learning opportunities:

> P17: "…as I have said, my problem is the disturbance at home. Therefore, SINU should help to provide some other places for us to go to, to spend time studying away from home where there is wifi, desktops, and other support to access…"

Content design, encompassing completeness, relevance, accuracy, language use, and simplicity, was underscored as crucial for user-friendly and effective online learning (Brown & Voltz, 2005). The ongoing evolution of OL requires proactive and dynamic designers and developers who can navigate diverse contextual settings and renovate pedagogies to motivate learners and facilitate deep learning processes (Deak et al., 2021).

1.4 Information and Communication Technology Infrastructure

ICT is driving OL, thus much of the discussions focus on access, reliability, internet connectivity, and the appropriate selection of its elements. While students have certain digital skills, not all are relevant to OL. However, these skills have proven helpful during freshman training. Some participants initially faced difficulties and sought support from ICT staff to navigate OL, while others expressed opposition due to a perceived lack of necessary skills. This study aligns with Raturi et al. (2011) in highlighting the importance of reaching a certain threshold of technological skill for comfortable participation in OL. Thus, offering freshman training during the enrolment process is critical in enhancing existing skills as evident in the response below:

> P7: "…I only knew of my limitations when SINU started with its online learning delivery…...however, the training the University provided has helped with my online learning…"

Participant 8 emphasized the importance of consistent internet connectivity, a viewpoint shared by participants 1 and 9 who suggested that the university should provide stable Wi-Fi service for students who cannot afford their own internet data. Participants 2 and 6 expressed the need for affordable ICT

tools capable of supporting internet-based learning. Unreliable internet connectivity was found to negatively impact students' motivation and engagement in OL, an argument supported by (Ahmad et al.,2018; Raturi, 2019). Thus, ensuring that students have access to appropriate ICT tools is key for successful OL experiences.

> P3: "…SINU should be thinking of providing devices like Tablets, or smaller laptops; it will help because they are much bigger and will cope with online learning requirements...it will be good to type assignments".

García-Morales et al. (2021) echoed that it is important for students to have access to appropriate technology and infrastructure for a comfortable OL experience. As technology changes, current knowledge and skills become obsolete, creating second divide Kolodziejczyk et al. (2020). Therefore, the participants appreciated the consideration to have freshman digital trainings provided before they actually start their OL. (Orlando & Attard, 2016; Azizan et al., 2022) referred to it as a renovation system to adapt to pedagogies to changing technologies. However, not everything can be remembered, which led them to suggest the need to have the support recorded on video for remedial purposes, a viewpoint shared by (Shank, 2005 as cited in Raturi, Hogan & Thaman, 2011). Hence, despite some scholars disagreed that digital skills have a direct relationship with academic performance (Bergdahl et al., 2020), it is obvious that OL requires ICT for the transaction of learning, over vast distance and without time constraints (Tadesse et al., 2018). Nevertheless, it is not only learners, who are being affected by changes to technology, thus, García-Morales et al. (2021) insisted that digital skills training must be for both instructors and students. This includes but not limited to digital technologies, multimedia, and social network tools, components that significantly influence the quality of students' OL experiences (Van Wart et al., 2020).

Limited internet connectivity is a major obstacle to interaction in OL. Students face frequent disruptions, slow speeds, high costs, and difficulty accessing online platforms, impacting their ability to participate, engage, and collaborate effectively. These have hindered real-time interaction, active engagement and collaboration among students as highlighted by

> P2: "…access becomes a problem when there is unstable internet network…...it makes it difficult to follow through with tutor's presentation or access materials on Moodle or meet in our group".

Raturi and Chandra (2016) argued that it is important for students to have access to appropriate tools and have some skills to interact with VLEs effectively, as without it, OL can be unpleasant and demotivating.

Inadequate digital literacy and unfamiliarity with online tools and platforms incumbered student interaction in OL. Students struggled with navigation, participation in discussions, and use of collaborative tools, limiting their active engagement and communication with peers. The lack of digital literacy and skills prompted the argument for freshman training, which Kolodziejczyk et al. (2020) referred to as the "second divide".

1.5 Prior Skills and Knowledge

In discussions on prior skills and knowledge, learners emphasized the importance of providing necessary skills and knowledge before commencing an OL course. They stressed that having the essential skills and knowledge for using tools and simple language is crucial for effective engagement in an online environment. Much of these were discussed in the preceding subtheme.

> P20: "…they should explain such words or use words that I'm familiar with so that learning flows. Yah, so it frustrates me when this happens".

Similarly, the respondents preferred straightforward course content, including content written in plain English in another study (Murray et al., 2012). On the other hand, SINU OL approach, which incorporates logical progression and proper spacing of information, received overwhelming praise from learners. They also recommended recording skills training on videos for future reference. Some comments from learners include:

> P11: "…if the training on how to use the technologies are recorded on video, it will help when we need to come back to a specific process later…it would really help us".

These sentiments align with a study by Almaiah & Alyoussef (2019), emphasizing that multimedia features contribute to improving the learning process of students.

Raturi et al. (2011) argued that individuals need a sound technological skill at a certain threshold to comfortably participate in online learning. This study supports the notion that providers of OL should offer training to enhance learners' prior skills and competencies during the enrolment process.

As highlighted in table 2, a merely one-year exposure to online learning for entire sample signifies a lack of experience with technology-mediated educational approaches despite their daily engagement with a minimum of one mobile device. This investigation underscores the heterogeneous nature of online learners across various dimensions, encompassing linguistic proficiency. In light of these findings, educators and instructional designers are strongly encouraged to recognize the diverse learner demographic and exercise caution regarding linguistic complexity, particularly within the context of a second and third English-speaking nation.

The research ardently promotes linguistic simplicity, advocating for the incorporation of definitions or substitution of less commonplace terms with readily understood synonyms to enhance comprehension. This methodology takes into account the varied age groups of learners, thereby ensuring inclusivity and effective knowledge acquisition. The utilization of plain English is posited as imperative within a second and third English language-speaking nation such as the Solomon Islands. The crux of the argument lies in the necessity for students to grasp the English language as a conduit for comprehending content, underscoring the significance of pedagogy that prioritizes the elucidation of concepts rather than an exclusive focus on linguistic intricacies.

1.6 Required Skills and Competencies for Online Learning

Online learning starkly differs from traditional face-to-face classroom access and engagement, necessitating distinct skills and competencies. Unlike face-to-face settings where punctuality is emphasized, the virtual classroom demands a different set of skills. Learners in this study discussed crucial considerations related to institutional support, including freshman training provided through short videos and text, which they can refer to throughout their studies. The skills required for OL go beyond simple use of mobile handsets. However, the study found that learners' familiarity with their handsets facilitated the quick acquisition of certain manoeuvres presented in the training provided by SINU at the beginning of each semester:

> P5: "…When we started, I found it difficult and therefore I struggled... I had to take it as my responsibility to ask the ICT team for help every now and then. They teach me and then I help my friends. This has also helped me in my digital skills and how to use a mobile phone".

> P6: "When I first heard that SINU is going online, I was one of those that disputed the move... But after going through the different training and mentoring, I say to my friends, hey, this is a good thing……. I now know how to use a mobile phone. And you know what, I like it now, it is really good. It teaches me how to use a laptop and other technological devices. Now I am an expert, I

would say, as I am helping my friends when they need help. It is exciting because we learn new things".

Table 3 depicts that students have frequently used and spent considerable time with ICT tools and the internet, with at least an average of 75% and 80% stating spending "sometimes to always" considerable time with their ICT tools and the internet. This significant time investment has enabled them to acquire basic skills and awareness of the functions and navigation processes, making it easier to train them in navigating through processes for internet browsing and using mobile devices for online learning. Despite some scholars disputing the correlation between digital skills and academic performance, learning over vast distances and in the absence of time without information and communication technology requires the knowhow and skills to access learning.

The reservations expressed by certain learners' stem from uncertainty, particularly regarding the involvement of technology, as discussed by participant 6. This uncertainty is rooted in their perceived lack of digital skills and competencies needed for OL. On this premise, García-Morales et al. (2021) proposed the necessity for digital training for both instructors and students in the context of online delivery, this should give them the confidence and awareness of the knowledge and skills they already have but more enhanced and tailored for OL. It is crucial to instill confidence in individuals who opt for OL.

1.7 Learners' integration

There are differing views on social integration, however, in SI this is a fundamental process of creating relationships beyond tribal groupings. The learners expressed the difficulty to meet in their community of learners group because they are unfamiliar with each other. Hence, they voiced the importance to include social integration activities in online course design to facilitate interaction and provide opportunities for students to get to know each other, staff, and the university as a whole. A participant said:

> P3: "…when I don't know other students, …it makes it quite difficult for me to ask them for help. Therefore, I suggest that the University introduces a program where we can come on-campus at the beginning of each semester…especially for new students. Also, organize something like an open day for students to come to mingle to get to know the staff and each other to make us feel part of the university too. The games that you organize every Wednesday are good; something similar".

The process facilitates the creation of trust relationships and obligations among individuals. It allows them to intrude into each other's time and space, sharing issues and providing support, which are the virtues of the wantok system. This system, known as the Melanesian way (Narakobi, 1983), is considered an economic saviour (Nanau, 2011). Trust relationships in this context create opportunities for sharing through dialogical engagement, enabling learners to become part of each other's world (Sanga et al., 2018; Sanga et al., 2021), which is vital for a community of inquirers. The relaxed atmosphere allows them to share jokes and challenge one another, which has been recognized as important for deep learning. Establishing a community of learners and inquiry serves the purpose of fostering these interactions. Styron (2010) posited that students are more likely to succeed in difficult tasks when they are surrounded by peers facing similar challenges. Thaman (2011) argues that Pacific people, as social beings, learn and communicate in accordance with their cultural orientations, emphasizing the need to consider their nature when designing educational models. Such standpoint prompted Ally (2014) to echo the importance for instructional designers to pay critical attention to course structure, and ensure that engagement and interaction are considered within learners' context.

1.8 Teacher Presence

Teacher presence is a cultural praxis in SI as it resonates with how knowledge is transmitted through a participatory approach. However, learners have acknowledged that it is not possible to have teachers present for long hours, but felt that course design must provide comfort so that it lessens the need for synchronous tutors' presence. They voiced that there should be time allocated for tutors to respond asynchronously to discussions as it is motivating. Participant 7 said:

> "….. I learn best when I watch the teacher presenting…….. The virtual classes are really good because I can see my tutors teaching, it helps me in my learning. But just providing text is not enough. For me when I read, I don't understand better, but when my tutor teaches it, it clarifies things and makes me understand it well".

According to Bao and Cho (2022) teacher presence facilitates learning, and narrows the TD, as such, the various instructions prepared need effective design (Holbeck & Hartman, 2018). Designing and developing courses that are dynamic and can be able to interact with students personalizes the interaction and motivates students. The participants said that clear and precise instructions enhance asynchronous interaction between them and their instructors as uttered by:

> P14: "… my two tutors…the way they prepared our contents; it makes it easier for us, and the approach to complement text with video, I would say is too good. So yes, it has helped me better organize myself and give less time required to consult my tutor, really good".

Katsarou and Chatzipanagiotou (2021), stated that the instructor's presence significantly affects online learners' pattern of interaction in online discussion forums and social media.

2 Autonomy

2.1 Locus of control

In this study on locus of control, participants highlighted key areas where online learning (OL) has facilitated their independence. Financial management emerged as a significant aspect, with learners prioritizing saving resources for internet data. For instance, one participant noted that online learning disciplined them to stay close to a location with good network coverage, thereby saving money for data. Time management was another notable benefit, as learners articulated how OL influenced their organization of priorities, especially for those with familial responsibilities.

> P15: "Online has disciplined me. I don't go far from the house because the network is good at the place I am living. In terms of money, it helps me save money for data. It made me look for resources on the internet. This is good".

Female participants, particularly those with families, emphasised the importance of time management due to household duties. Despite these challenges, participants expressed satisfaction with OL, linking their happiness to effective time management and resource utilization. However, the success of OL was contingent on individual determination and perceived priorities, as articulated by:

> P4: "Wow, online learning made me, to be more careful…. It may not be in a big way but it is helping me……In relation to time, huh, my time use; online learning has instilled in me the desire to learn to the point where I don't want to miss any virtual classes, even wasting time and money. I chew betelnut but this time, you know what, life is hard, so I started managing my money …….. yes … because I don't want to affect my studies in a negative way……. I'm also taking time to look for additional notes online. There is a lot of stuff online that I can use to help me in my studies. So yes, online learning has helped me a lot becoming independent."

Learners also stressed the value of online resources in aiding their studies, showcasing the adaptability and resourcefulness instilled by OL. According to students' own narrative, it was largely because it provided the space for them to be independent in managing their own time and browsing for their own materials from links provided, similar finding was reported in earlier study (Raturi, 2019). It is important to understand that autonomy comes about if learners exercise their decision-making power (Fotiadou et al., 2017).

The study also ascertained the crucial role of family support in a communal society like the Solomon Islands, as discussed in the subsequent section. Learners' narratives underscored the significance of familial relationships in shaping their daily lives, emphasizing the need for the right environment and financial backing from families.

Contrary to the argument presented by Fotiadou et al. (2017) regarding limited autonomy in decision-making for learners, this study found that participants exercised autonomy in OL, making decisions that fostered their independence. The study did not correlate learner autonomy with academic performance, but the transcriptions strongly indicated the role of OL in enhancing learners' determination. Table 3 in the study illustrated a trend toward self-directed learning, with students dedicating substantial hours to the internet weekly. This suggested that students were taking the lead in their OL, leveraging the internet to gather resources and create a conducive learning environment.

2.2 Supporting features enabling autonomy

On the outset OL has already created a situation for students to be independent. This asks for administrators and designers to consider a design that provide the condition to be independent, so that those that use the opportunity are seen to thrive.

> P15: "Online learning has disciplined me. I don't go far from the house because the network is good at the place I am living. In terms of money, it helps me save money for data. It made me look for resources on the internet. This is good".

In the overarching narrative of success within the realm of online learning (OL), the provision of support emerges as a fundamental determinant, playing a pivotal role in sustaining learner perseverance. The study delineates a spectrum of features contributing to this success paradigm. These encompass the cultivation of a conducive learning environment, familial support, the provisioning of reliable Wi-Fi services, proactively addressing identified issues, establishing a multifaceted support structure, integrating an online library, students' resource center, consistent reminders, fostering a supportive tutor demeanor, and anchoring the entire process in the unwavering commitment of tutors. Collectively, these elements engender conditions conducive to fostering learner independence. Subsequent discussions by participants highlighted their narrative.

> P1: "...Also provide an online library or a site that we can go to for other resources".

> P9: "My lot at home are supportive, this also helped me in my online study. They give me top-up and a space to study".

Despite, being close to the main campus, the participants were not keen going to the campus to access resources and study. Hence, they insisted for the provision of multiple study locations to be created.

> P4: "... As I have said, my problem is the disturbance at home. Therefore, SINU should help to provide some place for us to go to, to spend time studying away from home where there is Wi-Fi and desktops".

Learners identified support from institutions, friends, and family as central to being independent. They stated that online course design should consider academic, technical, and administrative support to

maintain student motivation and satisfaction. Digital skills training and cultural context considerations are essential. These factors determine the span of the TD in OL, as discussed by scholars like (Thaman, 2013; Raturi, 2019). Reducing the TD is vital for creating a successful OL model and requires addressing psychological and communication barriers (Moore, 1993). Course structure plays a pivotal role in achieving a quality OL model and enhance student performance and satisfaction (Kauffman, 2015). Instructor feedback proximity on assessment and queries, and asynchronous discussions are concerns that require a change in instructor approaches. The frequency of instructor presence should be considered to provide timely feedback and reduce learner frustration. Incorporating a schedule for feedback within the OL model can help manage expectations and ensure appropriate instructor responses.

Therefore, it is important that course structure is developed with thorough thinking and planning to create a high-quality designed course structure since it plays a significant role in students online academic performance (Sze & Hussain, 2010; Forde & O'Brien, 2022).

3 Interaction

3.1 Learner-instructor interaction (LII)

Learner-instructor interaction was seen as critical for students' academic performance, and participants stressed the importance of instructors providing feedback and guidance. Effective feedback was considered a bridge that closes the TD and improves students' motivation and learning outcomes.

> P11: "Feedback is very important to me.... yes. When I send them my questions or assignments, I would like my tutors to provide feedback as it will help me in my confusions and know how I did in my assignment. Any comments they write on my assignment would help me in my studies…therefore, yes, I would like my tutors to improve on this".

Studies have also highlighted the positive impact of timely and quality communication from instructors on students' satisfaction and motivation (Dyer et al., 2018; Younis et al., 2021; Amerstorfer & Freiin, 2021).

3.2 Learner-content interaction

As alluded to in the discussion of pedagogical approaches, learners preferred presentation of instructional contents in text, video and audio. They believed that this approach has enhanced their understanding and allowed for self-paced learning. For example:

> P1: "It is really good…I am satisfied with how the contents were written, because they are user-friendly, ... The design provided text, audio and video, which is absolutely wonderful, it helps me to understand the contents, and I was able to study on my own, ... it is very good".

Quality course structure and clear learning outcomes were considered important for meaningful learners-content interaction. Participants underscored that well-structured courses and clear outlines motivated them and gave them confidence in their learning process. One of the learners said:

> P2: "…the approach to complement text with videos, I would say is too good. …it has helped me better organize myself and give less time required to consult my tutor…".

This contention is supported by Zimmerman (2012) who recapitulated that LC interaction is essentially important as it can contribute to successful learning outcomes and course completion.

3.3 Learner-learner interaction (LLI)

Participants expressed the need for the university to facilitate and organise learning communities to enhance the effectiveness of LLI. They believed that such communities would foster social relationships, integration, and meaningful engagement among students.

> P16: "..., I find it really, really good when we meet to discuss activities and assignments. It helps me to really understand things that I find difficult to understand. Therefore, yes, I really want to meet with other students".

As alluded to by Amrullah and Nanzah (2022), LLI plays a considerable influence on students learning outcome.

3.4 Learner-interface interaction

Students acknowledged that despite, having access to certain mobile devices, there are a lot to learn in technology and a lot to improve on in digital skills. Therefore, they voiced that the freshman training provided was really helpful in enhancing their confidence, utilise ICT tools effectively and start the OL. The skills to use ICT devices and platforms effectively is useful for actually engaging in OL. As a participant stated:

> P5: "The training provided at the beginning and the follow-ups through the consultations I had with the ICT staff have also helped me in my digital skills and how to confidently use mobile phones for online learning".

Kolodziejczyk et al. (2020) resounded the importance of digital skills as it is more than just functional etiquette, therefore, practices require a more holistic approach to prepare students to be critical users. This will give the students the readiness to accept and use ICT tools and engage in OL mode confidently (Raturi and Chandra, 2016; Prasad et al., 2021; Reddy et al., 2022).

3.5 Vicarious interaction

When learners chose to be vicarious and listen rather than actively participate, was found to have benefits in OL. Participants felt that listening to discussions allowed them to analyse and learn from different perspectives. Some learners mentioned that being reserved and just listen pushed them to conduct further research and deepen their understanding. However, contradictory views were expressed, with some participants expressing a preference for active participation and sharing their own views. Two of the participants said

> P7: "For me when others discuss, it helps me very much… Some of their discussions confirm and further clarify my understanding. Therefore, OL is very good".

> P8: "… when someone says something and I listen, it gives me a quiet time to listen. In the process I learn."

According to Nieuwoudt (2020) someone being vicarious does not mean that the individual is not participating in the learning process. In fact, that someone is indirectly participating and therefore, he or she is cognitively present. Nieuwoudt further stated that students who are not participating in posts and forum discussions, are actually reading posts and learning vicariously.

The five types of interactions highlighted in these responses affirm the need to design the online course with spaces for these interactions using appropriate tools and technologies that takes our PI students context and their limitations into consideration.

Conclusion and Suggestions

The enablers of online learning in the Solomon Islands are influenced by course design, technology access, pedagogical approaches, teacher presence, self-motivation, discipline, interactions of all kinds (L-I, L-L, L-C, L-In and vicarious interactions), and supportive learning environments. On the other hand, there are also barriers that hinder online learning. These barriers are the cost of technology, limited technology access and internet connectivity, inadequate digital literacy and skills, pedagogical challenges, language barriers, and lack of social integration. Addressing these barriers and strengthening the enablers can enhance the quality of online learning experiences for students in the Solomon Islands. The study offers valuable insights for institutions to collaborate with policymakers, educators, and stakeholders to improve OL experiences in the SI, promoting inclusivity, equity, and student empowerment in the OL mode.

This study would be the first ever study done in SI with students of a national institution, hence, it is recommended that more studies must be carried out on the enablers and barriers of online learning, as well as on other elements of online learning the country is working to improve its telecommunication infrastructure across its nine provinces. Nevertheless, based on the findings of this study, it is recommended for improvement to online learning mode in the areas provided:

- Consideration of local context in global best practices of course design;
- Improving internet connectivity via the Wi-Fi services provided to students;
- Providing more Wi-Fi services and study locations;
- Forging partnership with manufacturers of ICT devices and incorporate their access through the University enrolment system;
- Establishing social programs to bring learners together, provide spaces for social interaction and fostering relationship;
- Creating content materials that are user-friendly where the focus is more into transmitting and teaching content, and less on the level of the difficulties of terms used;
- Creating and providing digital and technology freshman training materials on both text, video and audio;
- Creating students resource unit to provide the technical, academic and social support.

Technology is the modern or the 21st Century tool for efficiency and access to services, and has been changing the landscape of education, which has been seen to provide more benefits in terms of access and quality. Thus, it is of significance that this generation through their institutions and stakeholders prepare to respond to the need and provide the necessary support to establish a more contextual or a contemporary online learning model that considers contextual requirements to make the online learning model relevant to the society it is serving.

References

Ahmad, N., Quadri, N. N., Qureshi, M. R. N., & Alam, M. M. (2018). Relationship modeling of critical success factors for enhancing sustainability and performance in e-learning. *Sustainability*, *10*(12), 4776. https://doi.org/10.3390/su10124776

Almaiah, M. A., & Alyoussef, I. Y. (2019). Analysis of the effect of course design, course content support, course assessment and instructor characteristics on the actual use of E-learning system. *IEEE Access*, *7*, 171907-171922. https://doi.org/10.1109/ACCESS.2019.2956349

Ally, M., Grimus, M., & Ebner, M. (2014). Preparing teachers for a mobile world, to improve access to education. *Prospects*, *44*(1), 43-59. https://doi.org/10.1007/s11125-014-9293-2

Azizan, S., Lee, A., Crosling, G., Atherton, G., Arulanandam, B., Lee, C., & Rahim, R. A. (2022). Online learning and covid-19 in higher education: the value of its models in assessing students' satisfaction. *International Journal of Emerging Technologies in Learning (iJET)*, *17*(3), 245-278. https://doi.org/10.3991/ijet.v17i03.24871

Amerstorfer, C. M., & Freiin von Münster-Kistner, C. (2021). Student perceptions of academic engagement and student-teacher relationships in problem-based learning. *Frontiers in Psychology*, *12*, 4978. https://doi.org/10.3389/fpsyg.2021.713057

Amrullah, A., & Nanzah, Z. (2022). Student-student interaction in an online learning during the covid-19 pandemic. *Journal of Applied Studies in Language*, *6*(1), 37-45. https://doi.org/10.31940/jasl.v6i1.446

Andersen, J. C. (2013). *Learner satisfaction in online learning: An analysis of the perceived impact of learner-social media and learner-instructor interaction* (Paper 1115) [Doctoral dissertation, East Tennessee State University]. Retrieve March 16th, 2023, from https://dc.etsu.edu/etd/1115

Azizan, S., Lee, A., Crosling, G., Atherton, G., Arulanandam, B., Lee, C., & Rahim, R. A. (2022). Online learning and covid-19 in higher education: the value of its models in assessing students' satisfaction. *International Journal of Emerging Technologies in Learning (iJET)*, *17*(3), 245-278. https://doi.org/10.3991/ijet.v17i03.24871

Bao, N. V., & Cho, Y. C. (2022). Investigating factors of transitioned-online courses on satisfaction and learning effectiveness in higher education during the era of the COVID-19. *East Asian Journal of Business Economics*, *10*(3), 1-15. https://doi.org/10.20498/eajbe.2022.10.3.1

Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. *Journal of Education and e-learning Research*, *7*(3), 285-292. https://doi.org/10.20448/journal.509.2020.73.285.292

Bergdahl, N., Nouri, J., & Fors, U. (2020). Disengagement, engagement and digital skills in technology-enhanced learning. *Education and Information Technologies*, *25*, 957-983. https://doi.org/10.1007/s10639-019-09998-w

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development.* Thousand Oaks, CA: Sage Publications, Inc. Retrieve May 23rd, 2023 from https://www.researchgate.net/publication/242364922_Transforming_Qualitative_Information_Thematic_Analysis_and_Code_Development

Brown, A. R., & Voltz, B. D. (2005). Elements of effective e-learning design. *The International Review of Research in Open and Distributed Learning*, *6*(1). https://doi.org/10.19173/irrodl.v6i1.217

Deák, C., Kumar, B., Szabó, I., Nagy, G., & Szentesi, S. (2021). Evolution of new approaches in pedagogy and STEM with inquiry-based learning and post-pandemic scenarios. *Education Sciences*, *11*(7), 319. https://doi.org/10.3390/educsci11070319

Dyer, T., Aroz, J., & Larson, E. (2018). Proximity in the online classroom: Engagement, relationships, and personalization. *Journal of Instructional Research*, *7*, 108-118. http://www.instructionalresearch.com

Edward, K. L., & Welch, T. (2011). The extension of Colaizzi's method of phenomenological enquiry. *Contemporary nurse*, *39*(2), 163-171. https://doi.org/10.5172/conu.2011.39.2.163

Fotiadou, A., Angelaki, C., & Mavroidis, I. (2017). Learner autonomy as a factor of the learning process in distance education. *European Journal of Open, Distance and E-learning*, *20*(1), 95-110. https://doi.org/10.1515/eurodl-2017-0006

Forde, C., & OBrien, A. (2022). A literature review of barriers and opportunities presented by digitally enhanced practical skill teaching and learning in health science education. *Medical education online*, *27*(1), 2068210. https://doi.org/10.1080/10872981.2022.2068210

García-Morales, V. J., Garrido-Moreno, A., & Martín-Rojas, R. (2021). The transformation of higher education after the COVID disruption: Emerging challenges in an online learning scenario. *Frontiers in psychology*, *12*, 616059. https://doi.org/10.3389/fpsyg.2021.616059

Gunes, S. & Alagozlu, N. (2020). The interrelationship between learner autonomy, motivation and academic success in asynchronous distance learning and blended learning environments. *Novitas-ROYAL (Research on Youth and Language), 14*(2): 1-15. *http://www.novitasroyal.org/*

Hernández-Sellés, N., Muñoz-Carril, P. C., & González-Sanmamed, M. (2019). Computer-supported collaborative learning: An analysis of the relationship between interaction, emotional support and online collaborative tools. *Computers & Education*, *138*, 1-12. https://doi.org/10.1016/j.compedu.2019.04.012

Henritius, E., Löfström, E., & Hannula, M. S. (2019). University students' emotions in virtual learning: A review of empirical research in the 21st century. *British Journal of Educational Technology*, *50*(1), 80-100. https://doi.org/10.1111/bjet.12699

Heirdsfield, A., Walker, S., Tambyah, M., & Beutel, D. (2011). Blackboard as an online learning environment: What do teacher education students and staff think?. *Australian Journal of Teacher Education (Online)*, *36*(7), 1-16. https://doi.org/10.14221/ajte.2011v36n7.4

Hillman, D. C.; Willis, D. J. & Gunawardena, C. N. (1994). Learner- interface interaction in distance education: An extension of contemporary models and strategies for practitioners. *American Journal of Distance Education, 8*(2), 30-42. https://doi.org/10.1080/08923649409526853

Holbeck, R., & Hartman, J. (2018). Efficient strategies for maximizing online student satisfaction: Applying technologies to increase cognitive presence, social Presence, and teaching Presence. *Journal of Educators Online*, *15*(3), 3. https://doi.org/10.9743/jeo.2018.15.3.6

Irvine, V., Code, J., & Richards, L. (2013). Realigning higher education for the 21st century learner through multi-access learning. *Journal of Online Learning and Teaching*, *9*(2), 172. http://jolt.merlot.org/vol9no2/irvine_0613.pdf

James, P. C. (2021). What determines student satisfaction in an e-learning environment? A comprehensive literature review of key success factors. *Higher Education Studies, 11*(3), 1-9. https://doi.org/10.5539/hes.v11n3p

Johnson, J. B., Reddy, P., Chand, R., & Naiker, M. (2021). Attitudes and awareness of regional Pacific Island students towards e-learning. *International Journal of Educational Technology in Higher Education*, *18*(1), 1-20. https://doi.org/10.1186/s41239-021-00248-z

Kara, M., & Yildirim, Z. (2020). Identification of the optimal faculty behaviors for performance improvement in distance education. *Asia Pacific Education Review*, *21*(1), 83-97. https://doi.org/10.1007s12564-019-09610-3

Katsarou, E., & Chatzipanagiotou, P. (2021). A critical review of selected literature on learner-centered interactions in online learning. *Electronic Journal of e-Learning*, *19*(5), 349-362. https://doi.org/10.34190/ejel.19.5.2469

Kauffman, H. (2015). A review of predictive factors of student success in and satisfaction with online learning. *Research in Learning Technology*, *23*. https://doi.org/10.3402/rlt.v23.26507

Kolodziejczyk, I., Gibbs, P., Nembou, C., & Sagrista, M. R. (2020). Digital skills at Divine Word University, Papua New Guinea. *IAFOR Journal of Education*, *8*(2), 107-124. https://doi.org/10.22492/ije.8.2.06

Kumi-Yeboah, A. (2018). Designing a cross-cultural collaborative online learning framework for online instructors. *Online Learning*, *22*(4), 181-201. https://doi.org/10.24059/olj.v22i4.1520

Mamun, M. A. A. (2018). The role of scaffolding in the instructional design of online, self-directed, inquiry-based learning environments: Student engagement and learning approaches. [Doctoral dissertation, School of Education, The University of Queensland]. https://doi.org/10.14264/uql.2018.607

Manning-Ouellette, A., & Black, K. (2017). *Learning leadership*: A qualitative study on the differences of student learning in online versus traditional courses in a leadership studies program. *Journal of Leadership Education, 16*(2):59-78. https://doi.org/1012806/V16/I2/R4

Merriam, S. B., Courtenay, B., & Baumgartner, L. (2003). On becoming a witch: Learning in a marginalized community of practice. *Adult Education Quarterly*, *53*(3), 170-188. https://doi.org/10.1177/0741713603053003003

Mohammed, I. A. (2012). Thematic analysis: a critical review of its process and evaluation. *West East Journal of Social Sciences,* 1, (1). 39 – 47.

Moore, M. G. (1980). Independent study. *Redefining the Discipline of Adult Education*, *5*, 16-31. https://doi.org/10.4324/9780203803738.ch3

Moore, M. G. (1989). Editorial: Three types of interaction. *American Journal of Distance Education*. 3(2), 1- 7. https://doi.org/10.1080/08923648909526659

Moore, M. G. (1993). Theory of transactional distance. In D. Keegan (Ed.) *Theoretical Principles of Distance Education*, *Vol. 1*, pp. 22-38. London: Routledge.

Moore, M. G. (2013). The theory of transactional distance. In *Handbook of distance education* (pp. 84-103). Routledge. https://doi.org/10.4324/9780203803738

Morse, J. M. (2010). Simultaneous and sequential qualitative mixed-method designs. *Qualitative Inquiry, 16*(6)*,* 483-491. https://doi.org/10.1177/1077800410364741

Murray, M. C., Pérez, J., Geist, D., & Hedrick, A. (2012). Student interaction with online course content: Build it and they might come. *Journal of Information Technology Education: Research*, *11*(1), 125-140. https://doi.org/10.28945/1592

Nanau G. (2011). The Wantok System as a Socio-Economic and Political Network in Melanesia. *OMNES: The Journal of Multicultural Society, 2*(1), 31-55. https://doi.org/10.15685

Narokobi B. & Papua New Guinea. (1983). *Life and leadership in Melanesia*. Institute of Pacific Studies University of the South Pacific; University of Papua New Guinea.

Narayan, N. & Singh, S, K. (2020). Online learners' experiences and views towards online courses: A case study of the University of the South Pacific. Directions: *Journal of Educational Studies, 34*(1), 29-41. Retrieved March 15th, 2023, from https://www.usp.ac.fj/index.php?id=19882

Nieuwoudt, J. E. (2020). Investigating synchronous and asynchronous class attendance as predictors of academic success in online education. *Australasian Journal of Educational Technology*, *36*(3), 15-25. https://doi.org/10.14742/ajet.5137

Orlando, J., & Attard, C. (2016). Digital natives come of age: The reality of today's early career teachers using mobile devices to teach mathematics. *Mathematics Education Research Journal*, *28*, 107-121. https://doi.org/10.1007/s13394-015-0159-6

Powell, S. T., & Leary, H. (2021). Measuring learner–content interaction in digitally augmented learning experiences. *Distance Education*, *42*(4), 520-546. https://doi.org/10.1080/01587919.2021.1986369

Prasad, S., Rao, D. & Raturi, S. (2021) Predicting eLearning Readiness Model: A Case Study of Fiji's Secondary School Science Teachers, *International Journal on E-Learning*. 20 (10), 17-45.

Raturi, S., Hogan, R., & Thaman, K. H. (2011). Learners' access to tools and experience with technology at the University of the South Pacific: Readiness for e-learning. *Australasian Journal of Educational Technology*, *27*(3). https://doi.org/10.14742/ajet.952

Raturi, S., & Chandra, S. (2016). Learners and Instructors' digital status and satisfaction with learning environments in Higher Education. *International Journal of Instructional Technology and Distance Learning*, *13*(5-6), 31-52. Retrieved February 10th, 2023, from http://repository.usp.ac.fj/id/eprint/9038

Raturi, S. (2019). Gauging the extent of online practices along the eLearning continuum. *Technology, Instruction, Cognition & Learning*, *11*(4). Retrieved November 3rd, 2022, from http://repository.usp.ac.fj/id/eprint/11960

Raturi, S. (2021). Learners' preferences versus instructors' beliefs in technology-enabled learning environments in Pacific Island countries: Are we listening to the learners? *Journal of Computers in Education*, *9*(3), 403-426. https://doi.org/10.1007/s40692-021-00208-6

Reddy, E. V., Reddy, P., Sharma, B., Reddy, K., & Khan, M. G. (2022). Readiness and perception of pacific students to mobile phones for higher education. Technology, Knowledge and Learning, 28(3), 1113-1132. https://doi.org/10.1007/s10758-022-09595-w

Sanga, K., Reynolds, M., Paulsen, I., Spratt, R., & Maneipuri, J. (2018). A tok stori about tok stori: Melanesian relationality in action as research, leadership and scholarship. *Global Comparative Education*, *2*(1), 3-19. https://doi.org/10.26686/wgtn.12838157.v1

Sanga, K., Reynolds, M., Houma, S., & Maebuta, J. (2021). Tok stori as pedagogy: an approach to school leadership education in Solomon Islands. *The Australian Journal of Indigenous Education*, *50*(2), 377-384. https://doi.org/10.1017/jie.2020.31

Styron Jr, R. (2010). Student satisfaction and persistence: Factors vital to student retention. *Research in Higher Education Journal*, *6*, 1.

Sutton, L. A. (2000). Vicarious Interaction: A Learning Theory for Computer-Mediated Communications. *American Educational Research Association* (pp. 1-32) https://eric.ed.gov/?id=ED441817

Sze-Yeng, F., & Hussain, R. M. R. (2010). Self-directed learning in a socioconstructivist learning environment. *Procedia-Social and Behavioral Sciences*, *9*, 1913-1917. https://doi.org/10.1016/j.sbspro.2010.12.423

Tadesse, T., Gillies, R. M., & Campbell, C. (2018). Assessing the dimensionality and educational impacts of integrated ICT literacy in the higher education context. *Australasian Journal of Educational Technology, 34(*1). https://doi.org/10.14742/ajet.2957

Telecommunication Commission of Solomon Islands (2021, March 31). *Annual Report*. https://www.tcsi.org.sb/index.php/library/annual-reports/97-2020-annual-report/file

Thaman, K. H. (2013). Quality teachers for indigenous students: an imperative for the twenty-first century. *International Education Journal: Comparative Perspectives*, *12*(1). Retrieved March 12th, 2023, from http://hdl.voced.edu.au/10707/571408

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, *45*(1), 89-125. https://doi.org/10.3102/00346543045001089

Van Wart, M., Ni, A., Medina, P., Canelon, J., Kordrostami, M., Zhang, J., & Liu, Y. (2020). Integrating students' perspectives about online learning: a hierarchy of factors. *International Journal of Educational Technology in Higher Education*, *17*(1), 1-22. https://doi.org/10.1186/s41239-020-00229-8

Weidlich, J., & Bastiaens, T. J. (2018). Technology matters–The impact of transactional distance on satisfaction in online distance learning. *International Review of Research in Open and Distributed Learning*, *19*(3). https://doi.org/10.19173/irrodl.v19i3.3417

Whelan, R. (2008). Use of ICT in education and training in the South Pacific. *Distance Education, 29* (1), pp. 53-70. https://doi.org/10.1080/01587910802004845

World Bank (2022, October). *Macro Poverty Outlook: Country-by-country Analysis and Projections for the Developing World*. https://thedocs.worldbank.org/en/doc/77351105a334213c64122e44c2efe523-0500072021/related/mpo-am22.pdf

Younis, M., Imdad, P., & Rahman, A. A. U. (2021). Effects of constructive and timely feedback on academic performance of students. *Pakistan Journal of Educational Research*, *4*(4). https://doi.org/10.52337/pjer.v4i4.464

Zimmerman, T. D. (2012). Exploring learner to content interaction as a success factor in online courses. *International Review of Research in Open and Distributed Learning*, *13*(4), 152-165. https://doi.org/10.19173/irrodl.v13i4.1302

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