Te Whare Wānanga
o Awanuiārangi

NURTURING OF CULTURALLY APPROPRIATE AND COMPETENT ASSESSMENTS IN AGRICULTURAL EDUCATION IN FIJI

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2025

A thesis presented to Te Whare Wānanga o Awanuiārangi in fulfilment of the requirements for the degree of Doctor of Philosophy, Te Whare Wānanga o Awanuiārangi

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Declaration

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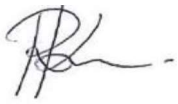

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ABSTRACT

Back in the olden days, a guru was everything to their student. गुरुर्ब्रह्मागुरुर्वरष्णुगुररुर्देवोमहेश्वरः। गुरुरेवपरंब्र्ह्मतस्मैश्रीगुरवेनमः ॥१॥	Meaning: Guru-the spiritual guide- is Brahma, Vishnu, and Mahesh! Guru is supreme consciousness; thus, salutations to the sacred Educator (Jain et al., 2021).

This thesis describes the development of an assessment framework to address the development of culturally appropriate and culturally competent assessment methods/tools using Hindu thought as a base. The case studies focus on agricultural education for Fiji. The purpose of this framework is to enable the alignment of the use of learner centered teaching and learning methodologies with the assessments. It also intends to include a broader scope of learning outcomes, including soft skills, empathy, and active learners.

The framework examines culturally appropriate pathways of assessing and learning in agricultural education for Fiji. A literature review examines the definition of culturally appropriate and competent assessments, current practices and implications on learners, trainer competencies and values, and the effect on teaching and learning.

This research employed two different frameworks to collect data and information. One was called the Vanua research framework, which guided the study conducted within the Fijian context. Another framework was based on a Hindu educational perspective to guide how information was gathered within a culturally appropriate model and assessment framework.

This culturally competent assessment framework for agricultural education in Fiji is derived from the Swasti Assessment Model informed through literature and data collected through a literature review, questionnaires, interviews, focus groups and observations.

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CHAPTER ONE – OVERVIEW

The pedagogical concern in Fiji remains the prevalent certification mentality, which was grounded on an examination-based education. The focus may have shifted to outcomes-based Education, but no evidence indicates that teaching practice has changed (Vaka'uta, 2011).

1.0 Chapter Introduction

The following is an old story of assessments conducted based on values. It is a Hindu Dharma-based story on how an assessment was conducted by a Guru (Educator) to prove that focus leads to success. The moral of the story is that focus leads to success; second, a skills test is based on what the Learner can do and can only be measured using a skills-based activity.

Guru Drona Chariya was an expert in using weapons and shields and was tasked to teach the children of the Kauravas and Pandavas dynasties. One day, he decided to test the skills of his pupils. He designed a bird made of clay and hung it on the tree. So, he called all of them and started with the eldest. He asked him to aim his arrow toward the eye of the bird, and he asked him the following question: What do you see?

Yudhishthira answered that he could see the bird, the tree, his Guru, and all his brothers. The Guru asked him to go and stand with the others. He called the next eldest, Duryodhana, requested he do the same, and asked him the same question. He gave precisely the same answer as his elder brother. He was also asked to join the group. In this way, he continued his testing with the rest of them. However, all of them gave the same answer and joined the group.

Lastly, he called Arjun, one of the Pandavas, and asked him to aim the arrow at the clay bird's eye and repeated the question. Arjun replied that he could only see the bird's eye. At this answer, the rest of the group started laughing. However, the Guru was happy inside. He again asked the same question, and Arjun gave the same answer. The Guru asked him to release the arrow, and the arrow pierced the clay bird's eye. The Guru patted his back and blessed him that he would be the best archer in the world.

Is this the true meaning of deep learning? Is this how we wish to assess our learners? Was this the practice during ancient times, and how were great leaders and innovators born?

Today, graduates need a more advanced skill set to meet the changing world. They must be able to think critically, analyze and make inferences (Edutopia, 2008). Thus, educators require a more active role and learner participation in determining individual needs. Edutopia (2014), suggests that there needs to be more parental, stakeholder, and community involvement. This supports what is being taught and what the learner needs to succeed.

1.1 Aim and research questions

The main aim of this research was to develop a culturally appropriate and sensitive assessment framework using data collected and collated using a Hindu thought philosophy research methodology.

This thesis aims to look at the culturally appropriate ways of assessing and learning in agricultural education in Fiji. It examined the definition of culturally appropriate and culturally competent assessments, current practices and implications on learners, trainer competencies and values, and the effect on teaching and learning.

The objectives of the study are given below:

1. To survey learner knowledge and involvement in assessments
2. To investigate the current assessment processes and systems in three of the five agricultural training institutions
3. To study the principles of culturally appropriate and culturally competent assessments in a multicultural environment
4. To develop a culturally appropriate framework for assessments in agricultural education in Fiji

In this study five (5) hypotheses were tested against learners and educators/stakeholders to determine the components of the culturally appropriate and sensitive assessment framework. The first three (3) hypotheses are related to learners with a set of research questions, and the

other two (2) hypotheses are related to educators and stakeholders with their research questions, as given below.

1.1.1 Hypothesis and Research Questions

Hypothesis 1:

Learners are involved in developing assessments in Fijian agricultural education at vocational levels.

Hypothesis 2:

Learners' cultural backgrounds and worldviews are included in the decision when designing the agricultural assessments in Fiji.

Hypothesis 3:

Learners are aware of culturally appropriate and culturally competent assessments.

Hypothesis 4-5 and Research Questions Related to Educators and Stakeholders

Hypothesis 4:

Agricultural educators capitalize on diversity as an asset to engage learners in the learning process.

Hypothesis 5:

The agricultural curriculum is flexible, culturally inclusive of the learner's backgrounds, and encourages learning within diverse worldviews with sufficient teaching resources and assessment tools.

1.1.2 Research questions:

Firstly, and most importantly the overarching research question for this research was as follows:

Is there a possibility of developing a culturally appropriate and competent assessment framework that will address inclusivity, consider diverse learner backgrounds, equitable, and sustainable?

Followed by sub-questions to seek information and also to guide the questionnaire and the focus group discussions which were later explored in the Discussion Chapter (Five) . These research questions also provided a guide to the five (5) hypotheses listed above.

1. How was there an understanding of cultures developed through the integration of culturally responsive assessments?
2. How was diversity capitalized in the classroom as an asset to student engagement and do educators and demonstrators seek solutions to overcome cultural barriers that affect student learning?
3. What procedures exist to develop and apply strategies to ensure a relevant and rigorous culturally inclusive curriculum and was there a cross-cultural integration to develop an understanding of the different worldviews to make connections?
4. Did the trainers have sufficient teaching and learning resources, knowledge of the different methods of assessing agricultural education to involve learners in classroom and assessment decision-making?
5. What are Fiji's principles for culturally appropriate and culturally competent agricultural education assessments and how do agricultural trainers incorporate the differences in culture for consensus and harmony?

1.2 Background to study

In Biggs (1999), what and how the learners perceive directly relates to how they think they will be assessed. Some of the traditional questions we need to ask when considering how students learn are:

1.1 Are we teaching what we think we are teaching?

1.2 Are learners learning what they are supposed to know?

1.3 Is there a better way of teaching to promote better learning?

However, today graduates need more than technical know-how through sophisticated teaching and assessment methods (Praetorius & Charalambous, 2023). The skills required to face the continuously changing world are just as critical. Their ability to think critically, analyze and make inferences are essential to graduate attributes. The traditional assessment methods are not applicable anymore (Boud, 2000) and there is a need for an overhaul of the assessment system. We need a tool to guide facilitators in preparing assessments to ensure that the 21st-century graduate attributes are taught to the learners. However, these attributes are not a new phenomenon, but they have not been an explicit part of teaching and learning (Symeonidis & Schwarz, 2016; Lewthwaite et al., 2017).

Bremner et al., (2022) argues that the learner-centered pedagogical (LCP) approach involves the teaching and learning of learners as the center of the learning process based on the six-aspect framework for conceptualizing LCP. This includes active learner participation, adapting to needs, the autonomy of learning life-long skills, relevant skills of the 21st century, power sharing where learner opinions are valued, and formative assessment where the learner is involved in self/peer assessments.

While we are focused on preparing the learners for the modern world, we must also maintain their cultural identity and cultural values. Education must not be a medium to destroy their worldview and produce confused individuals. As stated by Melnyk (2017), education if not implemented correctly can have negative consequences for both the teacher and the learner. Melnyk (2017), suggests that learners should be encouraged to solve problems in their own ways. The idea is to use their own worldviews to construct new knowledge and skills. Thus, the facilitators need to develop a new relationship between learning and assessment goals. We need a shift from testing to assessing learners' knowledge, skills, and attributes. There is a need to change from traditional testing tools to more culturally appropriate and sensitive assessment methods. Psico (2024), mentioned that there could be a thirty percent (30%) drop in validity scores for assessments designed without a cultural framework. It also mentions how cultural bias in human resource assessments is causing challenges in hiring people. The assessment tools are biased towards certain cultural backgrounds (Psico, 2024). Similarly, assessment tools designed without a cultural framework in education may end up favoring certain cultural backgrounds only. For example, learners with very good hands-on skills are left out because they do not perform well in examinations. Hence, they are labelled as dropouts who are not good enough to be in the school system.

For this study, we will define culture as how a person knows, does, and perceives things passed down through generations and assimilated through exposure by an individual. It is an identity created by a person's thoughts, understanding, and acceptance of things and may change as they grow, get educated or meet other people. Culture is defined by Pappas and McKelvie (2022); Cole (2024); and Webster (2024), as consisting of ideas, social behavior and customs of a group of people. This study discusses the development of a culturally appropriate and sensitive assessment framework. A culturally appropriate framework will guide the facilitators of agricultural education in Fiji to develop assessments for levels 1 to 6 as aligned to the Fiji

National Qualifications Framework in Appendix 4. The new culturally appropriate and sensitive framework aligns the assessments with the 21st century skills within the existing cultural values and worldviews of the learner. The case study in this thesis is based on agricultural education in Fiji from levels one (1 - Certificate) to six (6 - Diploma Agriculture) is Fiji's significant natural resource-based employment sector and the second largest contributor to the national Gross Domestic Product (Ministry of Agriculture, 2021).

Assessments have always fascinated me; I always thought it was unnecessary stress and not fun. However, I could not find any framework to guide how cultural education could be assessed. My job required me to carry out training on conducting assessments, but I always felt I lacked the information when determining attributes and culture. I also thought marking papers were futile because even the educator was not interested in the learner but in ensuring that the answers matched the marking guide. I always found that the learner was not the center of assessments; however, the assessment dictated the position of the learner, and what if the assessment was hard and unfair? Is it fair for the learner's status or future to be determined by assessments that are not appropriate and equitable?

As a result, I tried to look at how I could develop guiding tools to determine cultural knowledge, skills, and attributes. I found some policy papers on how learners must be treated to ensure their cultural identities are respected. This encouraged me to conduct this research with the intention that assessments would become a learning activity rather than a segregating and stressful activity for learners. This thesis focuses on developing a culturally appropriate and competent assessment framework to guide the development of appropriate assessment methods/tools coming out of a Hindu representation of a Swasti model.

To develop such a framework a need to align with a culturally relevant model that could harness and refer to the components was identified. Therefore, what is offered from this research is a new and unique model using the concept of a culturally significant tree with its own story and relevance to the Hindu culture and economically significant in other cultures.

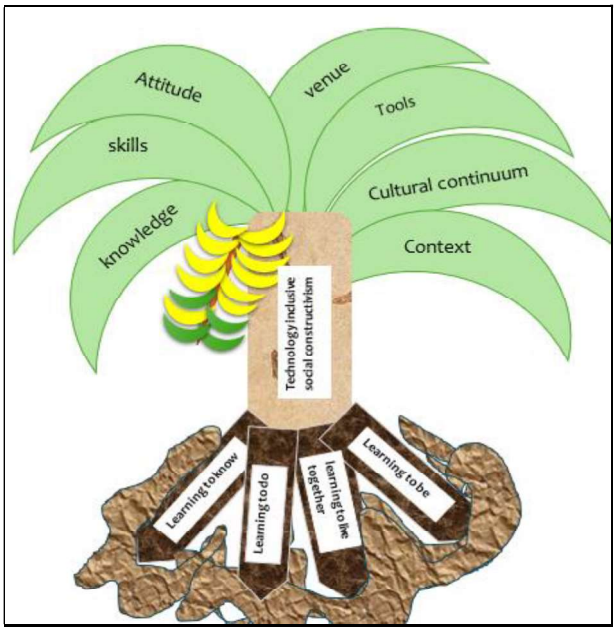


Figure 1: The Swasti Assessment Model. Source: Author (2022).

The Swasti model consists of the assessment framework's significant components represented by the plant's different parts. All the parts act together to bear the fruits representing the learners. The roots of the plant represent the four pillars of education. They keep the plant anchored and nourish it with food and water for survival. The stem represents the teaching and learning model, represented by the thick branch that supports the plant upright and holds the bunch of bananas. The leaves form the canopy, like the seven domains of the assessment framework under which the whole plant rests, providing sustenance and shade for growth and wellness. The bananas represent the cohort of learners for that year, unit, programme, module, etcetera. The framework was used for creating culturally appropriate and competent assessment methods and tools. The principles are inclusive within a Fijian learning environment.

Two assessment tools were developed from the culturally appropriate assessment framework to be used in the three (3) institutions. However, the assessment tools could not be tested because of covid-19 lockdowns and the higher education institutions had stopped all face-to-face classes. The Te Kotahitanga Observation Tool (Berryman and Bishop, 2011) was to be used to collect the data on the use of the two assessment tools. The Te Kotahitanga Observation Tool provides the framework for monitoring how educators incorporate the interactions and relationships described in the Te Kotahitanga Effective Teaching Profile in their everyday teaching. This observation tool was chosen by the author because it was simple to follow, and

it was generated from a cultural point of view. It was also to show respect to the Te Whare Wānanga o Awanuiārangi where the author was studying. The data was to be subjected to statistical analyses using SPSS Version for Windows 14 and manual evaluation using Excel Sheet. The framework can be used to develop assessment tools in varied technical subject areas to provide better feedback on the effectiveness of the culturally sensitive and appropriate assessment tools.

1.3 Methodology Overview

Research in Hinduism has been an integral part of the lives of Hindu Brahmans (Priests) since the birth of the Hindu religion. The Vedas mention how Brahmans practiced Yagna and Yoga or meditation to find new knowledge, skills, and instruments. The ways of knowing were known as Pramana in Hinduism (Banks, 2016). Hindu research was based on the four principles of Dharma, Artha, Kaama, and Moksha (Banks, 2016), which relate to selflessness and Godliness. This study has used Pramana as a step to develop a culturally appropriate and competent assessment framework. This framework has been used in India but not in Fiji. This approach is valid, reliable, and authentic because it refers to evidence-based research, and the steps are like any other research framework. The significant values reflected in this framework are truth, honesty, care of participants and author satisfaction (Moksha). It must be conducted with the ambits of Dharma, which is the care of the people and not hurting plants, animals, or humans during research. It must have meant (Artha) and help humanity to prosper or help in Kaama or everyday life. It should not cross the boundaries set for the good of the universe.

A conceptual framework approach was used for this study. The objectives and the research process were mapped out to draw the culturally appropriate and competent assessment framework. The study uses a mixture of methods to find answers to the research questions. The methods are discussed in detail in chapter three (3).

The research used culturally appropriate and western research methods and analytical tools. Both western and eastern research methods were used to ensure it was acceptable by all regardless of ethnicity and ensure validity and reliability of this research. This also allowed the researcher to collect *nofu* (correct) data and ensure that the researched community benefits from the outcomes of this research. The researcher ensured to maintain respect and ensure the

participants' confidentiality regarding their contributions. Also, a lot of care was taken to keep the information safe from exploitation. This is a requirement under the Wānanga data collection for research purposes.

The three institutions studied used this study included the Fiji National University, which is based in the central division, the Vivekananda Technical Center in the western division, and the Technical College which closed in 2020. The learner data was collected using questionnaires and interviews and focus group discussions were conducted with facilitators and stakeholders. Data was collected around assessments and the Hindu thought, practices, and the history of agriculture. Lot of secondary research was required to gather information on the cultural and Hinduism. The focus group discussions and interviews were very interesting. This is discussed in detail in chapter three of this thesis.

1.4 Significance of research

The world has shrunk due to technological advancements, transportation, and communication (Kondrashov, 2023). Geographically and culturally has created opportunities for people to engage with people from all walks of life. Thus, cultural awareness and inclusiveness have become essential when designing legislation, policies, and daily activities such as education.

Culture is an essential element that shapes our behavior towards one another, hence, it is an important factor to consider when developing policies. Being culturally aware and inclusive can help build meaningful connections with people, especially in a multicultural environment (Koya-Vaka‘uta, 2002). It also helps a person to value themselves. Cultural awareness and inclusiveness can help break down cultural barriers and build bridges by learning to appreciate and respect cultural differences. Culturally aware and inclusive people interact without prejudice or judgement (Meghani et al., 2022; Chavez, 2023; EasyLlama, 2024). However, cultural awareness and inclusiveness are closely linked to self-awareness (Meghani et al., 2022). We can also relate better with other people if we know ourselves foremost. The journey to cultural awareness and inclusiveness begins with understanding or knowing our identities first.

This study looks at the shift towards knowledge-based societies (Leydesdorff, 2001; Meier, 2011; Martin, 2022). Thus, it becomes paramount that people understand cultures better to address inappropriate messages, signs, and language when designing products, marketing, communication platforms, public speaking, and educational activities. The other reason cultural awareness and inclusiveness are essential is to reduce the appropriation of cultures or to stereotype people without knowing or understanding their worldviews (Estaris, 2023). If we compare culture to an iceberg, as shown in Figure 1, the examples of culture we see, such as clothes, food, songs, dance, holidays, and literature, are just the tip. There is a bigger unseen story at the bottom of all these, including values, ethics, traditions, customs, beliefs, morals, and philosophy and the meaning of life is much greater (Commisceo, 2022).

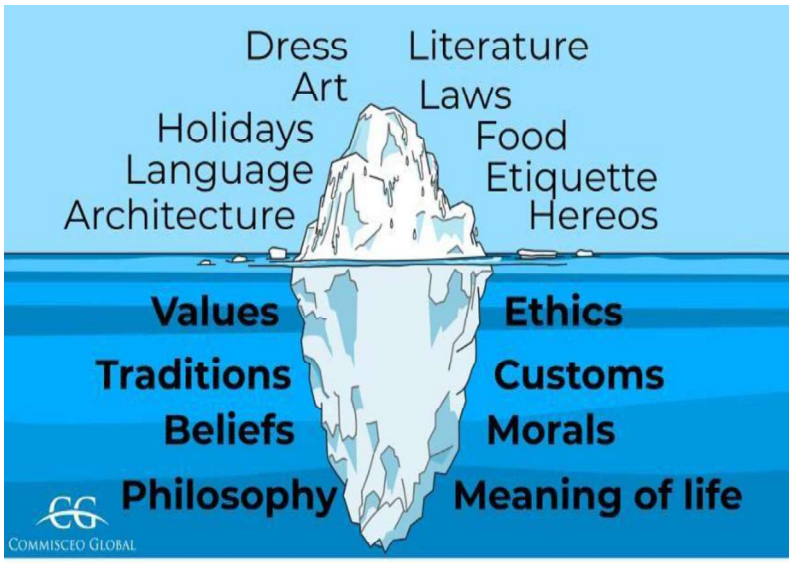


Figure 2: Ice-berg comparison of culture. Source: (Commisceo, 2022)

Culturally appropriate pedagogies are becoming more explicit in education training and implementation worldwide (Phuong-Ma et al., 2006; Phuong et al., 2009; Brown-Jeffy & Cooper, 2011; Lim et al., 2019). However, very little is said and documented on culturally appropriate assessments. Assessments must be reliable, valid, fair, and evidence based.

This study discusses the link between pedagogies and assessments to ensure fluid continuity and not an abrupt change that shocks learners when they are already in a state of fear and confusion regarding assessments. It also suggests that education is an essential platform for creating culturally inclusive and sensitive graduates. Thus, we must provide the appropriate

resources and environment for facilitators to construct knowledge, skills, and attributes towards cultural awareness, behavior, values, and respect for each other. It is intended to produce graduates who are global citizens and can build bridges for peace, unity, and progress.

1.5 Education in Fiji

This research was conducted in Fiji, mainly on the island of Viti Levu. Fiji is a small island state in the Pacific with approximately 300 islands and two central lands, Vanua Levu and Viti Levu (Nicole, 2000). Figure 3 is the map of Fiji to show the ocean of islands and its geographical challenge.

Figure 3: Map of the Fiji Islands (iStock, 2022)

Fiji is a diverse country with multiple cultures. The primary sources of income are tourism and agriculture. Education is mandatory for all learners under the age of 18 and there are 47 registered higher education institutions offering a variety of courses and qualifications (HECF, 2024). The government provides scholarships and loan schemes for learners to pursue higher education. Figure 4 is showing a seven-star hotel in Fiji belonging to the Fiji National Provident Funds and Figure 5 is showing sugarcane harvesting in process.

Figure 4: Tourism in Fiji. Source: (iStock, 2024)

Figure 5: Sugarcane farming in Fiji. Source: Author, (2022)

Missionaries introduced formal education in Fiji (Madigibuli, 2019). The Fijian government took over in the 1970s, and many changes were made over time. However, the reminiscences of the colonial ways of doing things remained unchanged. Examinations, including higher education, still play a vital role in the education system. A lot of effort was made under Australian Aid to train facilitators to use culturally appropriate pedagogies and andragogy at Education Training Institutes (Nayasi et al., 2022). However, the shift is slow and one of the reasons for the slow progress is that the assessment methods do not support pedagogies or andragogy (Nayasi et al., 2022).

Currently, Fiji is using four (4) principles of assessment. The following include the four (4) principles of assessment obtained from the Policy on Assessments (Fiji Higher Education Commission, 2018, p. 3):

1. *Valid- the extent to which an assessment decision, based on evidence of performance, was justified.*
2. *Fair- considering the individual learner's needs and characteristics and any reasonable adjustments to the assessment needed. In addition, learners must know and understand the assessment process and the criteria used.*
3. *Reliability was concerned with how accurate or precise the tasks were, how many errors were included in the evidence, that the evidence was consistently interpreted, and that assessment outcomes were comparable across assessors.*
4. *Flexible- reflecting the needs and characteristics of the individual learner, recognizing prior learning, and drawing on a range of methods appropriate to the context.*

Assessments are seen as being essential to teaching and learning because they determine learners' results for success and graduation. It impacts the future of the learners and assessments could be detrimental if they are poorly conducted. All learners are different, and they perceive the world differently. Learning is not about declaring the worldviews of learners wrong but understanding how to use the lens of their own worldview and learning to respect worldviews of others. It is also to support the development of new knowledge and skills based on what they know already.

1.6 Hinduism within education

Agriculture and Hinduism have a significant relationship. Agriculture is known as *Krishi* in Hindi. Kumar (2017) said that the following practices were conducted under agriculture:

1. Plant protection
2. Weather forecasting
3. Farm implements and soil
4. Domestication of animals
5. Seed treatment
6. Manures
7. Irrigation

8. Conservation

9. Homa farming – fire is used during prayers to cleanse the environment.

Kumar (2017), stated that these practices were associated with the ancient Vedic period, obtained from the holy books (Vedas) such as *Rigveda, Atharvaveda, Kautilya's Arthaśāstra, KrishiParashara, Varahmihira's Brhat Samhita*, and *Surpala's Vrikshyurveda.* Vrikshyurveda is the science of plant life. According to Kumar (2017), Vrikshyurveda discusses the protection of plants by looking at the underground water, spacing between plants, methods of propagation, preparation of pits for planting, seed treatment, and nourishment.

According to ancient history, Hindus began cultivation in 9000 Before Current Era (BCE), including cultivation of crops and domestication of animals. By 8000-4000 BCE they started with threshing, planting crops in rows and storing them in granaries (Harichandan et al., 2020). Irrigation was established in the Indus Valley around 4500 BCE. During the Epics of Ramayana and Bhagwati Gita, there is a story that depicts the use of sophisticated implements. Once, there was a severe drought in a city called Mathura. The people prayed to the Gods for rain, hence, they conducted a big *havan* and the King (Raja) was required to plough the land after the pooja (prayer) was over. While the Raja was ploughing the land with a plough, the share of the plough hit an earthen pot. When they brought the pot out, they found a baby girl in it. She was Mata Sita, the future wife of Lord Rama and an incarnation of Goddess Laxmi. The share is called *seet* in Hindi, so she was named Sita.

This suggests that farmers used sophisticated farm implements for farming during ancient times. Although the primitive forms of agriculture were shifting cultivation, the idea of manuring was slowly developed through crude research by sages and rishis (Suryavanshi, 2020). Observation was a significant source of learning and doing. It is also evident that the learners based in the homes of Brahmans (high priests) for education would collect food and firewood from the forest.

1.7 Agricultural Education and institutions in Fiji

Agricultural training started in 1932 at the Central Agricultural Station in Naduruloulou (Lim & Fleming, 2000). It began with five (5) learners. Later in 1940 it was extended to the General

Experiment Station in Sigatoka, where the number of learners rose to twenty-one (21) per year. From 1940, the Provincial Councils initiated a subsidiary scheme, and government grants to cover food ration, allowance, and clothing which enabled the training of more than 42 learners. The original course of two (2) years was extended to three (3) years. During this period, primarily male learners were enrolled and trained. Later in 1947, the last group of learners graduated, and the programme was discontinued (Lim & Fleming, 2000).

1.7.1 The Fiji National University

In 2010, the Fiji College of Agriculture was amalgamated to form the Fiji National University. One was the Fiji National University's agricultural campus in Koronivia in Nausori, Fiji Islands. The campus provides a Certificate in Commercial Agriculture (Level 3), a Bachelor of Science in Agriculture in four areas: agriculture, livestock, fisheries and forestry, and postgraduate programmes. Some provider programmes are recorded under the Fiji National Qualification Framework (FQF) on the National Register. There are two (2) types of qualifications in Fiji. Provider programmes are developed and accredited by the institutions, whereas the national qualifications are a set of predetermined standards set by the industry advisory committee. The Higher Education Commission Fiji is the custodian of the national standards, and the Bachelor of Science in Agriculture is recorded on the FQF.

In 1954, a college was established in Koronivia known as the Koronivia Farm Institute (Fiji National University, 2024). In 1962, the Certificate was upgraded to a Diploma in Tropical Agriculture (DTA), sourced through the University of the South Pacific as an extended programme. The Institute was renamed the Fiji College of Agriculture. The Fiji College of Agriculture was established to meet the local human resource requirement of the South Pacific (Fiji National University, 2024). Figure 6 shows a photo of the Fiji College of Agriculture, now operating as the College of Agriculture, Fisheries and Forestry under the Fiji National University:

Figure 6: Fiji College of Agriculture, now College of Agriculture, Fisheries, and Forestry. Source: (Facebook, 2022)

1.7.2 Technical Colleges of Fiji

The Technical College of Fiji (TCF), which offers a National Qualification - Certificate in Level 2. This qualification was based on the national standards set by the industry and accredited to the FQF. Technical colleges are government-funded Polytech schools that train youths aspiring to become tradespersons. It had around 13 campuses around Fiji offering different trades. Unfortunately, in 2019, the TCF was amalgamated with the Fiji National University. Thus, TCF is no longer in existence, however, at the time of data collection, TCF was a fully-fledged and operational higher education institution that was closed in 2020. TCF learners made a significant population of learners in this study, hence, this study considered TCF as the third institution. Figure 7 shows one of the campuses under the Technical College of Fiji in Nadi, Fiji.

Figure 7: One of the campuses of the Technical College of Fiji in Nadi. Source: (Facebook, 2022)

1.7.3 Vivekananda Technical Center

The Vivekananda Technical Center, a training organization focusing on training farmers in the field. It was currently offering an accredited Certificate in Horticulture (Level 3). This is another unique institution because the Learners are fulltime farmers. The institution provides education to the farmers instead of those coming to school. They are taught and assessed on the farm. It is an interesting model because it has no age barrier or a minimum qualification requirement. Figure 8 shows the Vivekananda Technical Centre located in Nadi.

Figure 8: Vivekananda Technical Centre located in Nadi. Source: (Facebook, 2022)

1.7.4 Tutu Rural Training Centre

In 1969, the Society of Mary in Taveuni established the Tutu Rural Training Centre to provide a place-based education for Cakaudrove and Macuata (McGregor, 2011). The institution trains the youths to become autonomous, responsible, and mature to enable them to be decision-

makers, choose to become farmers and live on their land. It is a four-year (4) training that takes the Learner from saving and learning to establishing their farm and family. Tutu is still a model that has worked very well for the youths in Fiji. Figure 10 is a photo showing the Tutu Training Center.

Figure 9: Tutu Rural Training Centre. Source: (Facebook, 2020)

1.7.5 Navuso Agricultural Technical Institution

The first reports on Agricultural Education say that the first agriculture-based Education was started in 1923 at the Navuso Agricultural Technical Institution based in Navuso in the province of Naitasiri. Initially, the Methodist Church was administered and operated from Australia. At that time, the Church's Secretary of Education bought 1,200 acres of freehold land from its original owners (Turner et al., 2017; Ministry of Agriculture, 2020), to start an agricultural school. Mr Meek, a graduate of Hawkesbury Agricultural College in New South Wales, became the school's first Principal in 1924. The school started enrolling young iTaukei youth for specific agricultural training. Till the 1950s, the Navuso Agricultural Technical Institute (NATI) offered a Certificate in Tropical Agriculture. Today, it is a registered training institute offering various programmes and has recently started enrolling women farmers. The NATI aims to train farmers for farming. However, it is slowly diversifying into other agricultural-related activities.

NATI offers a certificate in dairy and agriculture at levels two (2) and four (4), respectively. NATI is unique because it focuses on the training of young farmers. The graduates are encouraged and supported to develop or establish new farms through the Ministry of Agriculture. Figure 10 is a photo of the NATI in its early days. The Methodist Church of Fiji funds the NATI.

Figure 10: Navuso Agricultural Training Institute. Source: (Fiji-TV, 2022)

1.8 The Indenture System and Education

This study is based on the two major ethnic groups in Fiji. The indigenous Fijians are known as the iTaukei; the other major ethnic group is the Indo-Fijians. The first Indo-Fijians originated through the indentured system. Figure 10 shows how Indentured laborers, ended up in Fiji and were placed in houses called lanes that did not provide privacy (Prasad, 2015). When the British Slavery Abolition Act was abolished in 1834 (Prasad, 2015), slavery was reinvented and renamed the Indenture system. It lasted from 1834 to 1917 when the last shipload of people was brought to work on the sugarcane farms of Fiji on a five-year contract called the agreement (*Girmit*). The British colonizers brought approximately 60,965 indentured laborers to Fiji (Prasad 2015).

The indentured laborers started calling themselves *Girmityas* due to the coining of the word agreement. The deceitful *Aarkathis* (recruiters) would persuade, target, kidnap, talk to, or force people into this agreement. The recruiters would bribe with money, jewelry, and explain that Fiji was part of India to attract people. They promised that they would return home after work

was completed with lots of money. The recruiters managed to convince the people to sign the agreements in front of the magistrates (*Maamledaar*). There are stories of people who tried to escape upon realizing their freedom was lost but were caught and placed in isolation without food to intimidate submission.

Figure 11: Indentured labourers from India to work on sugarcane farms in Fiji (Prasad, 2015).

The story of the indentured laborers becomes sadder as the story unravels. Hundreds of the Girmityas died of grief and nostalgia, jumping off the ship to swim back to their motherland during the three-month journey by ship. The initial journey began with the robust caste system in India. As the expanse of the water grew wider between India and Fiji, the gap between the castes became narrower, and a new relationship was born known as the *Jahajibhais* (shipmates). This new relationship began a new diaspora of citizens known as Indo-Fijians, whose culture took a new turn in life, and a new subculture of Indians was born – Jahajibhais, Indo-Fijians, and Girmityas.

The language of the Jahajibhais produced a distinct lingua franca to what is known as Fiji Hindi today. Fiji Hindi is a mixture of Awadhi, Bhojpuri, and Urdu. Prasad (2015), states that Bollywood movies further influenced and strengthened the language. He also says that the descendants from South India also speak Fiji Hindi and Tamil, whereas Telegu and Malayalam are no longer spoken.

Girmit was a special era for the Indo-Fijians because it brought with it a new identity for the next generations to be born in Fiji. Hence, I wish to capture in this thesis the educational journey from the past to the present and how it has evolved over time on the needs and modes of education. This section also shows the importance and requisitions of an educator in the Hindu culture. It also shows how the stories of these people are not shared in the classrooms of the past and today. There may come a time when these people may be forgotten, and their sacrifices remain unseen.

In the Hindu culture, there was a strong bond between the educator and the pupil. The learners were responsible for the daily running of the ashrams, from cleaning and cooking to prayers. They would collect firewood for cooking, gardening, planting, feeding animals around the ashram, washing, and helping the Guru. Care of the cows was paramount. There is evidence of the care of the cows in the stories surrounding Lord Krishna and how he would take cows for grazing with his poor friend Sudama. They were also taught the concept of service, where they were required to massage the legs of their elders and wait on them while they ate. They were instructed to clean, wash and keep the environment safe for everyone.

They were taught the different trades and warfare besides the routine daily tasks. They also had to recite the holy books and understand their philosophy. They also learned to recite and write using the alphabet. *Ganith,* or arithmetic, was also part of learning. Sanskrit was the formal way of writing. Later, Hindi was introduced to explain things and concepts to commoners. Today, the Fijian Pundits usually travel to India to learn Sanskrit. No schools teach the Hindu religion and rituals with *mantras* in Fiji. However, there a specialized persons who teach in pockets around Fiji. Most learning takes place by observation and listening or self-directed using religious books.

It is evident from the curriculum for both pre- and post-secondary that stories and history of early settlement of the iTaukei and of Girmit (agreement) are not taught in schools. What is taught is merely the tip of the iceberg. Most of the history taught in schools goes as far back to the prowess of the early missionaries and european voyagers found or discovered the Pacific including Fiji. We were not taught about the bravery, creativity, and survival of our ancestors'. I grew up listening to how I could be as successful as the Europeans, but never was I taught that we also had heroes and heroines with whom we could connect and look up to. We were always

lost between the victories of others over our barbaric ancestors and how they were violent, and weapons were required to restrain them. No one told us about how our ancestors labored on farms under slavery. No one told us how they used small tools to build big roads. We were not made aware of how they were mistreated and exposed to harsh treatment and environment to make Fiji what it is today. Silently, someone would speak about our forefathers. We were seen as culprits of time, scared to know if they were convicts from India. People would fear that their past may tarnish their future.

Till today, most of us are not aware of our genealogy from India. We have not been taught to appreciate the sacrifices of our forefathers but to worry about our newfound status. I am not skeptical here because it is not about who my forefather was but what they did, and the sacrifices they made must be acknowledged for me to create the new me. I do not want us to live this false life of dread and fear. I am so thankful that my ancestors kept their religion alive. They brought with them the holy books and were able to practice the rituals. At least our identity as Hindus is still alive. The following is an excerpt from a book written by Prasad (2015), that shows the pain and suffering of the Girmityas:

Kali kothariya ma buteye nahin ratiyaan ho

(In the dark rooms of the coolie lines, I spend my nights)

Kisse bataye hum peer re bidesia

(Whom do I share my pains with, my love)

Din raat hamri beeti dukhwa mein umariya ho

(The days and nights of my life are spent in sorrow)

Sukha re naynwa re bidesia

(My eyes have dried off tears)

Way forward, I think we need to introduce the history and stories through culturally appropriate and sensitive curriculum and assessment in our schools. This will give opportunity for the learners to know and understand their cultures and worldviews better. New knowledge and skills then are developed through their own lenses rather than an unknown, half-baked history. There are a lot of values we can learn by telling the truth. The history that made us who we are today must be revealed in the correct version. Local academics have made a lot of effort to

record the true history of Fiji. The past anecdotes are now readily available through archives, digital and websites that can be used in classes.

Values and culture are not explicit in the programme documents of higher education institutions. Teaching and learning methods are impersonal, and most lecturers are unaware of culturally appropriate pedagogies or assessment methods. One of the reasons for this is that lecturers do not have appropriate teaching qualifications. The other could be the limitation in the educator qualifications itself, where graduates are not equipped with culturally appropriate pedagogies and assessment methods. An example of this limitation is the failure of the competency or classroom-based assessment (CBA) introduced in primary and secondary schools in 2009 (Ali & Iqbal, 2018). The challenges discussed by Ali and Iqbal (2018) include practical-oriented teaching and learning, time constraints, and difficulty switching from summative to formative assessment methods. However, it is noted that the educators were not prepared for formative assessments during their educator training, adversely affecting the implementation of formative assessments in schools. Ali and Iqbal (2018) mention that wealthy children's parents can hire tutors to help with the projects and formative assessment activities. This clearly shows CBA's lack of competency. The curriculum officers may also have lacked knowledge on how and what to design for formative assessments.

*The debate about assessment highlights its importance for learning, emphasizing that unless and until a real shift of educational priorities takes place which removes the emphasis on test scores and task outcomes, Competency-Based Education was unlikely to have a lasting impact in the school and Fijian society. School and classroom practices should be monitored to avoid falling back into the routine chalk-and-talk and quantitative outputs paradigm. Educator toolkits and good practice samples on planning assessment for Competency-Based Education are also keys (*Vaka'uta, 2011).

1.9 Indo-Fijians in Fiji

The Indo-Fijians make up 38% of the population in Fiji. Indo-Fijians is an ethnic label (Coulson, 2016) used to describe Fijian citizens of Indian descent who can trace their heritage to India yet can see themselves as distinct and different from the Indians in India. Ethnicity refers to shared cultural practices, perspectives and distinctions that define a group of people from another. The religion of a person does not determine an Indo-Fijian. However, their religion highly

determines their culture and way of being and doing. An Indo-Fijian could be a Hindu, Sikh, Muslim, or Christian. This also determines their food, clothing, ceremonies, and their worldviews. A man in a Bula shirt and a pair of trousers is an Indo-Fijian, but a man in a Dhoti is a Hindu Indo-Fijian, and Hijab is a Muslim Indo-Fijian.

The Hindu stakeholder focus group discussions with the experts in Hinduism, Indo-Fijians are people born to indentured laborers brought to Fiji to work in the sugarcane farms. However, they have a different way of living than the Indians, with much Pacific influence. The Indo-Fijians are more individualistic, drink Kava (grog/*Piper methysticum*), wear Western clothes with Pacific prints, eat food that has not evolved the traditional taste and speak a different language called Fiji Hindi or Fiji Baat (Shameem, 2002).

Curry is an Indo-Fijian food; however, a Hindu Indo-Fijian will never consume beef (forbidden), and a Muslim Indo-Fijian always considers pork *haram* (forbidden). A Sikh Indo-Fijian will never consume beef, but eating pork is okay. Other differences within the Hindu Indo-Fijians include vegetarians not eating pork, garlic, onions, and others.

Indo-Fijians celebrate many festivals; however, the celebrations are unique to their religion. Hindus celebrate Diwali and Holi, and Muslims celebrate *Eid-ul-Fitr* and Prophet Mohammed's Birthdays as a national holiday. Diwali and Prophet Mohammed's Birthdays are also national holidays.

Hindu Indo-Fijians chose the Ramayana as the most pious and relevant from India's plurality of Hindu practices. The Ramayana was selected in the context of the social and economic situation. Voigt-Graf (2004), said that the Ramayana was chosen because it is casteless and straightforward. It also depicts exile, suffering, struggle, and eventual return, which resembles the Girmit (agreement). Thus, Ramayan was recited and performed in *Ram Lilas* (stage performances). A new concept of Ramayan *Mandalis* was also born. *Mandali* is a Marathi word meaning an assembly, a company, a congregated or corporate body, and the Hindi dictionary means a party, team, ring, gang, band, or circle (Library, n.d.). The Hindu Indo-Fijians would gather in groups and recite the Ramayana. In Hinduism Ayurveda, however, *Mandali* refers to viperine (venomous) snakes.

The term *Mandali* is also very close to the Asian word Mandala. A mandala is a spiritual and ritual symbol that means entering and proceeding towards its center (Invaluable, 2018). One is

guided through the cosmic process of transforming the universe from suffering into joy and happiness.

During the indenture, there was a significant disintegration of the caste (Miller, 2008). However, one major caste survived due to its reverence. High-caste Brahmans comprised four percent (4%) of the indentured labor force (Miller, 2008). To date, Pundits from the Brahman Kul (caste) perform religious rituals and conduct mantras. The changes over time are intermarriages with the others and the Brahmans' acceptance of agriculture as part of their lives. In Fiji, many Pundits work their farms as a source of income. They keep animals for sale and consumption. Practicing Pundits are mainly entirely vegetarian, but due to the influence of intermarriages and socialization, non-practicing Pundits have started to consume meat and alcohol.

The significance of Ramayan in Fiji for the Indo-Fijians traces back to the nineteenth century. A stronghold of the bhakti movement that originated in India during the medieval period emphasized personal, direct devotion to God (Ram and Krishna) through prayer, meditation, and song.

Hinduism in Fiji denotes multiplicity. It comprises two major groups, the North Indians, and the South Indians, with Gujarati and Sikh minorities. Within these groups there are multiple religious movements, such as the followers of the Santana Dharam, Arya Samaj, Hare Krishna, Sathya Sai Baba, Ram Krishna Mission and others (Miller, 2008; Lal & Yadav, 1995). By the turn of the century, the literate individuals who conducted the recitals and discussions from the limited number of Hindu texts were supplemented with local shopkeepers' importation of literature. Thus, the diversity of Hindu practices lessened through text-based Hinduism in Fiji.

The journey of the religious groups from the time of indenture to date has been challenging. The difference between beliefs among Hindus in Fiji has generated many debates about credibility. Participants from India have further fueled it. India and the happenings in India continued to influence the Indo-Fijians until the end of the 19th century. The Fiji Baat (language) also came under scrutiny. It was labelled as a jungle (meaning wild, pronounced as *Junglee*) language. The Fiji Baat was developed on the plantations of the indenture period (Shameem, 2002). The Sanatan Dharam emerged as the more structured group. Thus, Ram Chandra Sharma was given the religious torch (Miller, 2008). To establish local Sanatan Dharam centers to teach

Sanskrit education, he launched the Rishikul ashrams. However, the emphasis shifted to an English and Hindi-based curriculum (Miller, 2008).

We still have three primary and three minority religious groups functioning in Fiji under the Hindu banner. Namely, they are the Arya Pratinidhi of Fiji, the Sanatan Dharam of Fiji, and the Then India Sanmarga Ikya (TISI) of Fiji. In the minority, we have the Shri Satya Sai Baba, Hare Rama, Hare Krishna (ISKON), and the Ram Krishna Mission. The fight is still ongoing with the older generation and in rural settings. However, with a growing number of Hindus in Western-based education graduates and migrations, there is a decreasing will to debate, and an increasing will to work together for the Indo-Fijian community. The coup, natural disasters and pandemics have forced the different communities to work together rather than with other religious groups. New charities and social groups of people with different religious backgrounds are being formed to combat today's fundamental problems.

The registration of Pundits under the different registration bodies ensures that the Pundits are in the appropriate religious practices, mantras, and continuous contact with India, which have further refined the timings of festivals. The Hindu dharma has two firm characteristic values, one of self-respect and the other of the victory of good over evil. The key to the Hindu thought and practice is held in the Ramcharitramanas. Hinduism still has a stronghold in Fiji with the development of temples and places of worship. The Mandali and prayers reciting of the Ramayan are conducted by Pundits.

A significant change was the adoption of western culture due to the daily interaction between the Europeans. Thus, the living style changed drastically from the original Indian culture to a more Indo-Fijian culture. The ways of cooking, dressing, habits, and thinking have changed. Today, Indo-Fijian foods are limited to five significant spices compared to what is used in India. The Indo-Fijian attire has significantly changed to western styles of dressing. Wearing ethnic Indian clothes is limited to religious and cultural events and occasions. Cross-cultural clothing among Indians, such as wearing salwar kameez from Muslim communities by Hindus, is standard. However, how a Muslim woman would wear it differs from a Hindu woman. A Muslim woman would cover her head, but a Hindu woman would not. The idea of head covering in Hinduism is limited to religious occasions. The method for the headdress is also different. A Muslim woman would entirely cover her head compared to a Hindu woman, lightly draping the end of her veil or saree over her head. Below is a photograph to show the difference.

Figure 12 shows two Indian women wearing veils. The first is a Muslim woman wearing a veil covering her head tightly. Muslim women still wear their veils in modern times as they had done in the past. The second woman is Hindu, and the way she wears her veil is slightly different. It is more loosely worn to allow air to pass through. However, wearing veils over the head is rarely practiced by Hindu women except during religious occasions, funerals, and weddings.

Figure 12: Wearing a veil by Indo-Fijian Women, Source: A Muslin woman in a veil on the left (Alamy, n.d.). A Hindu woman in a veil on the right. (Ewins, 1906) Fiji Post Cards

The Hindu man has ultimately adopted pants and shorts. They rarely wear the original one-piece cloth dhoti, even for religious occasions. However, many wear it as a fashion rather than a cultural requirement. The fashionable ones are ready-to-wear Indian type rather than the original manual ones. The pictures below show the original North Indian dhoti vs the fashionable ready-to-wear ones. Figure 15 shows the two different ways of wearing dhoti. The first one is the traditional way, including one piece of cloth that was manually worn and the modern dhoti that is ready-made.

Figure 13: Traditional and modern way of wearing a Dhoti by the Indo-Fijians. Source: (Ajio, 2024).

Wearing formal shirts, t-shirts, shorts, or trousers is more of the Indo-Fijian culture than traditional tunics. Tunics are worn chiefly during weddings, religious activities, and festivals. The contact of Indo-Fijians with the indigenous Fijians was restricted during the colonial era (Prasad, 2015). However, after independence, there was an increased interaction between the two ethnicities. As a result, a new set of characteristics were exchanged.

The Indo-Fijians adopted the ways of food preparation, drinking kava (*Piper methysticum*), wearing sulu, and language. The new way of preparing food, called *Lovo,* became a delicacy. Today, kava is a popular socializing tool amongst the Indo-Fijians—pipe smoking for socializing during the early days as Girmityas was replaced by kava drinking. Later, the introduction of cigarettes by Western culture was also adopted to replace the original *Sukhi* (tobacco). Today, only a few people chew or smoke tobacco or *Sukhi.* Below is a picture of a person smoking *Sukhi*. Figure 14 below shows how *Sukhi* is rolled up for smoking and a packet of chewing tobacco.

Figure 14: Smoking and chewing of Sukhi/Tobacco. Source: (Author, 2022)

The shirts and T-shirts have been contextualized using the Fijian prints of flowers, leaves, Fijian artefacts, and sea creatures. Below are photos of some of the images commonly used on shirts and t-shirts.

Palusami is a Fijian dish cooked in *lovo,* including layering Taro leaves, and covering them with coconut milk. It may or may not have accessories such as minced meat, onions, salt, or any other favorites. The use of supplements makes it a very Indo-Fijian version. This is enclosed in an aluminum foil that has replaced banana, or *Viavia* leaves traditionally used to wrap

Palusami. It is placed on the top of the pile of food inside the earthen stove. Indo-Fijians use goat meat for *lovo,* which the *iTaukei* never used in the original *lovo* (Author). Figure 15 shows a picture of putting up a *lovo* in Fiji.

Figure 15: Food made in an earthen oven (Source: Jean-Michel Cousteau Resort showing lovo food, including chicken, Palusami and root crops (Jean, n.d.).

Lovo is cooked in earthen ovens. Cooking and eating roti and rice with curry has become common in iTaukei families. It has fewer spices and less oil, differentiating it from the original Indo-Fijian version. Dhal is another food that has been adopted by iTaukei families. It also has a version where vegetables, meat, and noodles are also added in it.

Religion has been maintained in its original form in Fiji. The way the Indo-Fijians pray has not changed a lot. The continuous connections to India have assisted in getting religious materials across to Fiji. However, the concept of temples has changed. We have fewer temples and unlike in India, people pray primarily at home rather than at temples. However, unlike the Christian followers, the Hindus do not have religion-based schools to date. There are specialist schools for teaching theology from levels 1 to 10. There are postgraduate studies and Doctorates in theology. Education in the Hindu culture dates to ancient times. The holy books mention Gurus and ashrams where Kings sent their children to study with the other children. Even Lord Rama and Lord Krishna went to school and studied science, warfare, music, and values. Children stayed at the ashrams and could not meet with their parents during this period. They would

leave them at the tender age of six and return when they were 16 to 18. The educators were addressed as *Gurus*, and the learners were called *Śikṣārthī* (Prasad, 2015).

1.10 Thesis Overview

This study consists of the following eight chapters. Chapter One introduced the research topic and its significance to the body of Fijian knowledge. It further provided the background to the methods, an overview of results, and a discussion of this study. It also gives a brief overview of the history of agricultural education in Fiji.

Chapter Two provides a review of critical literature. The focus was mainly on pedagogy, purpose, culturally appropriate assessments, principles, definitions, and theories.

Chapter Three focused on the Te Kotahitanga Observation Tool, Talanoa, the highest principles of Dharma, Artha, Kaama, and Moksha (Banks, 2016) Hindu Research Framework and the Vanua framework (Baba, 2006). It also addressed research methods such as interviews, focus groups, and questionnaires. The data collected through the questionnaires was analyzed using the SPSS version for Windows 14.

Chapter Four presents the results and analyzed data for stakeholders and sampled curriculum documents in the form of graphs, diagrams, tables, or written text.

Chapter Five is the discussion on data analysis for the responses from all stakeholders and sampled curriculum documents from the institutions under study. It provides the discussion on the curriculum analyses. It provided an overview for including culturally appropriate teaching and learning methodologies that encourage, empower, and build confidence in learners to become problem solvers and critical thinkers from the traditional passive recipients of information.

Chapter Six presents the new assessment framework based on culturally appropriate and sensitive principles in the Swasti model. The Swasti model is based on the Hindu philosophy and the primary assessment and education principles used worldwide.

Chapter Seven concludes with any recommendations, limitations, and overall findings of the Study. It also presented the limitations of this study.

1.11 Chapter Summary

This chapter introduced the study, aims, hypothesis, and research questions to this study. The traditional education system aims at a holistic improvement of human life, including personal, economic, social, moral, and spiritual. The teacher was the focus of teaching and learning. However, there is a paradigm shift where the learner must be the centre of teaching and learning, but the aims remain the same. Education is not just about making money and passing examinations. It contributes to the development of society. It is about the higher truth. It is about "*Tamaso Ma Jyotirgamaya*" (dark to light). This is not about moving from east to west. The growth and development of the materialist world were spiritually controlled to enable positivity and dignity.

Education is not just about passively receiving and reproducing information and skills. Learners need to be more than that. It is an attempt to spread the cultural norms of a society to its young people (Naskar & Chatterjee, 2022). It is also a means of developing critical thinkers and problem solvers. They must learn to live together and work as a team. However, the current education system is a dismantled process that fails to align the outcomes, teaching, and learning methodologies to assessments. The curriculum and the educator override the importance of the learner in the equation.

The Hindu thought formed the basis of the new model, which gave birth to the new culturally appropriate and sensitive framework. The Swasti assessment model resembles a banana plant with religious significance in Hinduism, education, and economic importance. It is consumed by everyone for food and the whole plant can be used for various purposes. The banana plant has roots through the stem and leaves to the fruit, resembling a new cohort of learners. The new fruits do not grow on the old plant yet look and act like the old plant. The new framework has seven domains, namely:

1. Knowledge
2. Skills
3. Attributes

4. Venue
5. Tools
6. Cultural continuum
7. Context

The framework is developed as a general framework from levels 1 to 6 to guide in the development of inclusive, culturally appropriate, relevant, and equitable assessments. An example of assessment tools for agricultural education has been developed to guide the use of the framework. The framework has not been tested in the natural environment, however, there is a future potential for work in this area.

As a result of the new framework, agricultural curriculum will become flexible, culturally inclusive of the learners' backgrounds, and encourages learning within diverse worldviews with sufficient teaching resources and assessment tools. The next chapter reviews literature on culture and education, emphasizing models and frameworks in education.

CHAPTER TWO - LITERATURE REVIEW

A bunch of educators here think they know what's wrong with us. But they do not know. If people want to help us, they must see what we've been through, not from what their own experiences tell the……Billie, a Lakota teenager, spoke of the Educators at her high school (Justice, 2023).

2.0 Chapter Introduction

In the 19th Century, culture was about converting people into a human organism through borrowed or forced Western knowledge (Kabutaulaka, 2015). The Pacific was not spared. A new migration theory originated from racist divisions (Kabutaulaka, 2015). Theories of Pacific migration were created on how people moved via the sea to inhabit the sea of islands through three different views, none of which seemed to acknowledge the art and science of craft or the navigational knowledge and skills of the people (Irwin, 2008).

The richness of the small islands fascinated the later migrants. They disregarded the way of life of the people and decided that they needed to be cultured, naming them as ignoble savages and belittling their worldviews as barbaric and dark (Kabutaulaka, 2015). So, they brought supremacy of Western knowledge, light, and new cultures or ways of living (Tjerkezoff, 2003).

Later, the concept of classroom education, including in Fiji, was introduced to cater for the colonizers' descendants. This concept slowly extended to the others in Fiji. Everyone was in the race to be on par with Western knowledge and stature. Continuous belittling has changed people's mindset, and forced them to believe that their identity, importance, and worldviews were of lower status. So, parents would push their children to get a Western education and work in the civil service or private sector to get a higher position in society, even if it meant they would have to send their children away from their home and country. After completing their education, they would return with a new cultural identity that was difficult to fit into the existing system. They would be faced with challenging situations with their relatives, siblings and the community regarding relationships, roles, responsibilities, religious occasions, food, clothing, values and way of living. The expectations were fuzzy, and this would force separation between families.

On the other hand, even if the graduates wanted to return to their original way of life, their parents would not allow them. The thought of losing prestige with the newly found identity, educated, and cultured with a higher social status than their own forced them to let their children move away to live in towns and cities. Many graduates made the choice to return to urban areas to maintain peace and harmony between families. Parents would be happy to accommodate them occasionally during festivities or home visits. We still live with the myth that western knowledge is superior to our own. It is only recently that migrants have started to accept that their way of life matters. However, the colonial ways of teaching and learning are still evident in the education system in Fiji. It has become a national culture. According to Koya (2015) the need to change pedagogical practices is not deep-seated in educators, considering the pressures they face regarding content and examinations (Koya, 2015).

> *It was recognized that new methodologies, content, and delivery systems are required to address the informal economy's training needs effectively. For example, designing and delivering effective programmes using skills training to exploit income-generating opportunities in the agricultural and non-farm sectors can improve health, sanitation, and resource utilization. There is a need to create and provide enhanced quality and standards through appropriate, competency-based curriculum and efficient quality control at all levels* (Martinez et al., 2013).

Initially, teaching and learning approaches were designed to be culturally appropriate to empower identities. However, western education emphasized unifying a diverse culture-based classroom by focusing only on similarities rather than differences that make them who they are (Zhu et al., 2024). Although we understand that one size does not fit all, the education system continued to focus on standardizing rather than making education inclusive and equitable. Uniforms were introduced in schools, English became the medium of communication, vernacular was limited to vernacular classes, and the resource materials and content in the textbooks were mainly borrowed from other countries. This was done to counter the differences and an attempt to maintain fairness in a diverse group of individuals. Teachers were prepared or chose to teach neutral lessons and did not include any race or religion in their classes (Wormeli, n.d.). The values to be taught were determined by schools without consulting the community, parents, or students. Similarly, the higher education institutions in Fiji would take all efforts to be neutral, hence, they also would consider values that are similar, secular approaches, and borrow content as a baseline for studies. However, universities tried to include

the pacific or Fijian cultural knowledge and skills in few programmes, including teacher training. One of the higher education institutions (University of the South Pacific) made the uptake of two (2) units in culture mandatory across all subject areas.

Cultural events are held in both schools and higher education institutions to mark special occasions. The student council in higher education institutions were responsible for organizing these events. However, the teachers in primary and secondary schools mostly organize such events. The purpose of such events is for holistic development and creating awareness. Holistic development means the well-being of social, cultural, and spiritual development.

> *Do not teach me my culture; teach me through my culture. Teaching using our cultural ways makes learning western math, geography, or history much easier* (Dias, 2017).

The Pacific Island Countries (PICs) are arguably culturally diverse regions. Indigenous people comprise most of the region's population (Thaman, 2013). The possibility of learning within one's culture, ethnicity, or race was not a straightforward task. However, Chu et al., (2013), believed that all learners need a space that makes them feel culturally safe, that was, to provide a context that facilitates their learning.

The question then arises because of the diversity in learning styles in the classroom is, how do learners learn best in a cultural context and how do teachers decide on which culturally appropriate pedagogy to be used? Koya (2015) argues that it is an area that has been ignored in educational research in Fiji. Given the multicultural composition of Fijian learners, it is an area that needs investigation (Koya, 2015; Hanley, 2010).

This chapter investigates how culture could become the basis for a learner-centered and inclusive curriculum and assessments in the classroom. It also looks at the literature on how culture is an important consideration for equity in education. Literature on the importance of culturally appropriate curriculum development, cultural alignment of assessments to curriculum, and educators' knowledge and skills for learner centered and culturally sensitive curriculum and assessments. Holistic education is possible with the use of culturally appropriate pedagogy and assessment methods. It also looks at how to create the space/place for cultural appropriate curriculum and assessment in the classroom/education system.

2.1 Agricultural curriculum and assessment

According to Wang (2016), the agricultural sector reform has become important with the changing social economy, thus, impacting the reform of agricultural assessments in colleges and universities. The reform is necessary to meet the modern agricultural sector requirements. Wang (2016) argues that the curriculum needs to be optimized and the teaching materials updated. His study found that forty-five (45%) of the learners wanted a focus on practical enhancement compared to thirty-five (35%) who wanted both cognitive and practical enhancement. This shows that learners have different learning objectives and outcomes. However, according to Wang (2016) agricultural education is not flexible. The institutions must provide more options or electives to meet the different needs of learners. However, the study did not emphasize assessments to match the reformed curriculum.

Acker (1999) mentions the need to improve the quality of agricultural education to meet the needs of the 21st century. His study talks about teaching agriculture as an interdisciplinary subject compared to just crops and animal discipline. Interdisciplinary teaching and learning means moving away from the traditional ways. It means adopting new and better ways of improving teaching and learning. Drape (2023) said that assessment is not about one way feedback. It involves the learner taking responsibility for their learning by providing evidence of achievements or competence. Hence, it is not about examinations and grading.

2.2 Learner centered cultural education

Learner-centered learning appears to be deciphered as lots of student activities (Koya, 2015). This relates to keeping the class occupied and busy while completing the content requirements. Many educators do not understand that Learner-centered learning is self-directed and participatory. Therefore, they do not realize that the primary practices of passive pen-paper based learner activities and question-answer techniques are not necessarily learner-centered (Koya, 2015).

Educators today are aware of many gaps in education such as achievement, funding, and school readiness. However, the gap that often goes unnoticed is the cultural gap between learners and educators (Justice, 2023) and the education system.

> *Often, an educator has a classroom full of learners who do not look like them, think like them, eat like them, dress like them, perceive like them or behave like them* (Justice, 2023).

> *Educators often try to bridge this difference with the Golden Rule, treating others how we would want to be treated. But the truth was that culture matters. The culture was not just a list of holidays or shared recipes, religious traditions, or language; it was a lived experience unique to everyone* (Justice, 2023).

Thaman (1994), asserted that everyone was born into a cultural heritage and historical tradition. Each person should know fully the principles on which their culture rests.

However, they only end up knowing how to evaluate and improve it, making judgments in relation to other cultures, and deciding whether to stay within or move away from it (Thaman, 1994).

Mohanty (2007) argues that the immediate effect of western paradigms is the destruction of cultural aspects of curriculum development and practice. Unfortunately, the less developed countries are more dependent on western knowledge and ways of delivering education and training. It is either enforced on them as a requirement for funding or reminiscences of consultants (Puamau, 2001). Further, the inherent philosophy of western education was that the educator must have more knowledge than the student. The non-participatory teaching styles are more common in the less developed countries such as Fiji. Hence, graduates from such countries or education systems end up as passive recipients of modern-day slavery, harassment, and exploitation. This is not even to mention the uneducated. According to Puamau (2001) indigenous knowledge systems were not considered worthwhile for intellectual pursuits.

Western strategies and values have been a common base for education development in Fiji. Standardization was a key concept where learners in primary and secondary schools were required to wear uniforms and shoes of similar colour with the idea that uniforms would help unify all learners of different backgrounds and all learners would be treated alike. Another primary reason for this approach was the inadequacy in the provision and empowerment for the

use of local knowledge and skills for developing teaching materials and methods for inclusive and equitable education. It also made work convenient for policymakers to provide standardized requirements based on similarities rather than differences. It was anticipated as an ideal way to ensure that education reached everyone at the same level. Today, English is one of the requirements for getting scholarships through the international English testing system (IELTS). People sometimes find it difficult to meet the required grade. Westernization has now shifted from colonialism to neocolonialism, where it looks whiter and cleaner than blue and messy past (Eduardo, 2012). Puamau (2001) also stated that the western curriculum does not value indigenous knowledge and skills. Thus, this study investigated the importance of an inclusive and culturally sensitive assessment framework for a multicultural classroom in Fiji.

Hartman (2016) defines cultural diversity as a multidimensional construct that varies across and within learners. It includes ethnicity, race, gender, sexual orientation, gender identity, career goal, and intellectual differences compared to the traditional conception of diversity. Hofstede's model of the six dimensions of culture, quoted by Bruin (2017) defines a multifaceted culture as shown in Figure 16.

Figure 16: Hofstede's cultural dimensions. Source: (Bruin, 2017).

The Hofstede model was developed to encourage interconnectedness worldwide to conduct business efficiently with people from different countries and cultural backgrounds (Bruin, 2017). There are six cultural dimensions on which countries were ranked: power distance, individualism/collectivism, uncertainty avoidance, long-term/short-term orientation, and restraint/indulgence (Bruin, 2017). Attempts in the past have been made to address cultural

differences across borders. Some of the frameworks used include the GLOBE study, Trompenaars' cultural dimensions and Hall's cultural dimensions (Bruin, 2017). However, Hofstede's model has its limitations. Insights from several papers suggest that the Hofstede's model may need to be reviewed for a more comprehensive understanding of cultural differences.

Learners may identify themselves with multiple cultures because of various reasons such as inter-marriages, adoption of ways of doing things, assimilation of beliefs, interpretation of meanings, perceptions, education, globalization, realization, etcetera. For example, a learner may see herself as an Indo-Fijian, a Hindu, a woman, a visionary, a lesbian, and a psychologist. Thus, multiculturalism can be viewed broadly and cut across and within learners (Hartman, 2016).

Williams et al., (2022) defines cultural systems as inclusive of ethnicity, gender, class, sexuality, religion, and age. They say that these aspects of culture are viewed as a person's collective expression of their subjectivities, including physical and abstract properties. Physicals include architecture, clothing, food, and language. The abstract consists of shared world views, ways of doing, seeing, and perceiving, systems of meaning, and norms. These expressions of people's cultures form the basis of their lives and should be inclusive in all scenarios, including education. Thus, the education system must be equitable and echo the sentiments of the people.

Assessments are an integral part of the course designing. According to Waterloo University (2025), involving learners for decision making on assessment methods that work best for them helps their successful completion of the course. All learners have different ways of learning and getting their involvement in assessment development ensures that they are fairly assessed.

2.3 Education system and cultural equity

Equity in education means catering for all learners regardless of their background, language, race, economic profile, gender, learning capability, disability, or family history and providing equal opportunity to get the support and resources required to achieve their educational goals (Western Governors University, 2021). Most literature supports the need to adapt multiple and

culturally appropriate teaching styles to suit the different needs of learners. It becomes an especially important consideration for auditory learners, pictures, illustrations, and colors for visuals, and tactile learners who need breaks. However, the tools required to measure learning have not been considered in similar contexts mentioned above.

During assessments, assessors tend to separate the learner from the tools of assessment. Assessments are usually something that is done to learners rather than with or for the learners. In the process of fairness and objectivity, the assessments merely serve as a method to determine some numbers that describe the learner's ability and capability. How fair and equitable are assessments if the learner is not at the center? Who or what is the purpose of assessments if it is not considering the learner or providing the opportunity for the learner to achieve their goals?

Most higher education institutions in Fiji follow a similar system. The educator would introduce the course using a course outline to introduce the topics and objectives of the course, followed by lectures, tutorials, practical, especially for technical subjects and finally assessments in the form of coursework and examinations.

Multiple and culturally appropriate teaching methods and pedagogies are limited to the teacher training institutions. Although teacher training qualifications are meant to prepare all educators including the higher education facilitators for the appropriate pedagogies and teaching styles, it is not implemented in the real world. The most common method used are lectures, where the educator stands in front of the classroom and provides information supported by PowerPoint, some videos or other teaching aids. Others use tutorials and practical to give more information to help the learners with examination questions (Burnett et al. 2019; Gani et al. 2019).

Practical is used to assess the learners and provide towards their final grades in some subject and technical areas. The teaching and learning style are oriented towards preparing learners for the final examinations because the examinations determine the grades that the learners need for promotion to the next course, semester, or graduation (Burnett et al. 2019; Gani et al. 2019).

Most teaching and learning methods do not consider individual learner needs and instilling values and attributes but focus more on achieving content knowledge and skills. As a result, the

characteristics that determine a person's identity or culture are disregarded, which means that the education system is again not fair or equitable. Learning has not been equally provided to learners with different backgrounds and needs.

Vaka'uta (2002) argues, that there is still a stronghold of colonial education structures, systems, and contents. She says that there is a growing need for developing multicultural education in the Pacific. There is an evident increase in the diversity of societies, and the importance of teaching and learning in a diverse environment, enabling effective interaction and communication (Vaka'uta, 2002). She quotes two Western theorists, John Dewey, who said the classroom is a microcosm of society and Paulo Freire whose theory was, an education for liberation. Vaka'uta (2002) believed that the ideas central to the two theorists were that schooling should be tailormade to suit the needs of the learners and that it should be rooted in their cultures and ways of learning.

Hartman (2016) defines culturally responsive teaching as using ethnically diverse learners' experiences, perspectives, and cultural characteristics as conduits for teaching them more effectively. Meaningful learning of the knowledge and skills introduced in higher education institutes occurs when the learners' frames of reference and life experience are situated.

Hartman (2016), further argues that facilitators should recognize the many facets of cultural diversity and, thus, use various instructional strategies to teach for and with cultural responsiveness. Her research reveals that being responsive to the cultural diversity of the learners can benefit everyone from learning. Teaching with cultural responsiveness means applying strategies for culturally responsive teaching as part of teaching qualifications or teaching-related courses. Likewise, teaching for cultural responsiveness implies that educators should implement culturally responsive teaching strategies with their learners (Hartman, 2016). Balliste (2007), views cultural diversity as either a barrier to learning or a resource to build on teaching and learning. Previous cross-cultural research has assumed that the sense-making resources of learners from diverse language and cultural communities differ from those central to the scientific inquiry, which leads to the conclusion that this difference was a barrier to learning that must be overcome by instructional means. Cultural differences can enrich teaching when the educator moves away from a uniform "top-down" view of content and incorporates the learner's existing knowledge (Balliste, 2007).

Cazden (1988) said that the traditional pattern of classroom interaction was a three part sequence named IRE: Educator initiation, learner response and evaluation. In most cases, the educator initiates the discussion with a question, and the learner volunteers to answer by raising their hand. The educator chooses a learner whose hands are up to ascertain if the learners have learned what was taught. The educator offers evaluative comments to assess learners' responses. The questions and answers (Q and A) method would be inappropriate in any other context except the traditional classroom or the military because of power and control. On both occasions, an individual oversaw controlling the speech and responses. In a typical classroom, the educator has an asymmetrical control of the right to speak. The educator has the right to talk to anyone, fill the silence or interrupt any speaker. No one has the right to object.

The educator usually defines the learner's right to speak as rules of politeness and definitions of competence. As a result, teaching and learning in the classroom becomes educator-centered and only involves a fraction of the learners who believe they may have a correct answer. Many learners remain silent to avoid subjectivity to negative Educator evaluations (Balliste, 2007). Yet others choose to withdraw from conversations whose cultural and linguistic knowledge differs from the educator's patterns of acceptable responses.

Constructivist thinking suggested by Balliste (2007) requires educators to change their stances toward classroom conversations. Inquiry-based teaching and collaborative groups in classrooms need the educator to step outside academic authority and find out. The learners co-construct and build together ideas about seminal questions through honest dialogue, and the educator listens and reflects without immediately agonizing over what ought to be said. However, cultural differences exist even with this more open stance towards discussions in constructivist classrooms. While Balliste was talking about constructive thinking in the millennia, the education system is still struggling with critical thinking, not that the latter is a lower-level thinking order but the world needs answers to the questions arising from critical thinking.

Ways of constructive and critical thinking in cultures differ. Sometimes a reaction such as disagreement could be shown as a long period of silence and in others silence can be loud (Shearer, 2020). Hence, a classroom must be able to know and understand and respect the different ways that issues can be discussed and represented. The learners must be allowed to

use their own ways or practices to resolve issues or solve problems. It provides a platform for learners to know about their own better and at the same time listen and learn about other ways of doing things. It also gives them the opportunity to challenge the status quo and to develop and test new approaches (Margerison, 2021).

Using approaches such as debating is not detrimental but an essential tool or resource for making learning meaningful. There was evidence that language loss was purely linguistic and involved the socialization of language and knowledge, ways of knowing, and nonverbal capacity within cultures (Balliste, 2007). The colonial and neo-colonial models offer a fragmented history of local people that characterizes them as primitive or superstitious. Local people are deficient and require Western knowledge and language remedies (Balliste, 2007). However, this destroys the self-esteem and self-confidence of the local people (Balliste, 2007).

Despite this realization, schools and higher education institutions do not embrace or prioritize the locals' local knowledge and skills, let alone teach about diverse knowledge systems (Balliste, 2007). Fragmented local knowledge was displayed as artefacts in some museums or pushed back to remote villages and communities.

Balliste, (2007) argues that very few to almost no educator training institutions have developed insight into the diversity of the knowledge foundations of the local people. Decolonization of knowledge was often treated as a matter of race or culture, multicultural and cross-cultural education. Local knowledge should be treated as a different knowledge system equal to western thinking rather than as invisible to Western scholarship, development theories, and global science. Further, *an open, multicultural society and education system requires the progressive articulation of and commitment to maximizing economic, social, and educational equality* (Shor, 1992).

Verma and Bagley (1979), stated that the central challenge is that we live in a multiethnic, culturally plural society and a racist one. According to them, there is a good reason for believing that the tests unintentionally may not be culturally fair. They are overdependent upon reading ability, western concepts and values and experience with the multiple-choice format. In contrast

to universalism, Henderson (2000) purported that different strategies were applied worldwide to Aboriginal peoples.

The implicit assumption in the democratization of education is that if equality of cultural outcomes were sought through a compulsory standard curriculum, it would threaten civilizations. They believe that only a minority can become cultured in our sense. Diaz, (2001), also says a significant gap exists between the conception of multicultural education and educators.

2.4 Developing culturally appropriate curriculum

Curriculum refers to the content, knowledge, skills, and competencies learners must acquire within a specific educational program or course. It outlines educational goals, instructional materials, teaching methods, and learning objectives. A well-designed curriculum provides a structured framework for educators to deliver meaningful and coherent instruction, ensuring learners receive a quality education (Sharma, 2024).

Curriculum and instruction are critical components of the educational process that shape and guide teaching and learning experiences. While curriculum focuses on what is taught, instruction focuses on how it is taught. The curriculum sets the foundation for instructional planning and guides the selection of instructional methods and strategies. Thus, a relationship between curriculum and instruction is essential for effective learning and teaching.

Policymakers and educators pay more attention to determining how best to prepare the adult education programs for immediate employment, career advancement, and further training or postsecondary education (Chernus & Fowler, 2010). Globally, a large proportion of employment involves applying technical and vocational skills to the work area. Thus, graduate outcomes are mainly dependent on what the industry wants and the type of curriculum the higher education institution develops. The attributes and values are mainly stated around communication, work ethics and transparency and accountability that can be measured or easily taught. Again, the learner is left out because these attributes are biased to the industry than the learner or the graduate. Hence, rightfully it is more a graduate outcome than learner outcome. To make graduate outcomes more learner-centered, it must include learner participation, be

learner sensitive, and produce competent learners. It should also be culturally appropriate for the learner. According to Schim and Doorenbos, (2010), culture provides the people with a mechanism for learning how to be in this world, behave, what to value and gives meaning to one's existence.

Hence, some validity questions that need to be considered while developing or discussing culturally appropriate curriculum include (Yazzie-Mintz, 2007, p. 73):

1. *Can the educator teach without acknowledging the context of teaching and learning?*
2. *What must be known by the educator when developing a curriculum that ensures that it is learner and all learners regardless of whether their economic or social background has been considered?*
3. *What opportunities are there for educators to consider while developing a multicultural and learner centered curriculum?*
4. *How does the educator respond to individual learners' needs and implement a learner centered curriculum in the classroom?*

With the shifting demographics of the classroom, there is a need to understand what multicultural education is and how it is going to be implemented (Ozturgut, 2011; Banks, 2016). Culture based education is the grounding of instruction and learners' values, norms, knowledge, beliefs, practices, experiences, and language that are the foundation of culture (Singh, 2011).

Vishewar (2024) and Sanujit, (2011) posit that the Hindu civilization was molded more through religion than economic or political influences. The ideals, practices, and conduct are called Dharma. Dharma refers to religion, virtue, or duty. The doctrine of karma (action) is integral to the life and education system. The ultimate objective of devotion is Brahma and not the world. Hence, according to the Hindu thought, the education system brings self-development (Sanujit, 2011). The emphasis on plain living and high thinking is the basis of education for self-development.

Further to the above, the fields of vidya (knowledge) are divided into two broad streams (Sanujit, 2011):

1. *Paravidya* – The higher knowledge or spiritual wisdom.
2. *Aparavidya* – The lower knowledge or secular sciences.

Learners need a balance of knowledge for their spiritual and material well-being. During ancient times, the learner would be comprehending this knowledge away from the world's distractions amidst natural surroundings at the feet of the educator in his home. The educator was regarded as the symbol of good ideals, a code of behavior, and traditions. The duties performed at the educator's home targeted instilling social skills for the dignity of labor and social services (Vishewar, 2024).

Vocational training in animal husbandry, agriculture, and dairy farming provided the learner with occupational skills. Learning by doing was the core and essence of the ancient Hindu education system. Getting alms (food items obtained by begging people) for their daily sustenance fostered humanitarian virtues. According to Sanujit (2011) two methods of teaching and learning practiced during the ancient period are still used today: oral and C*hintan* (critical and constructive thinking). The learners would memorize verses from the holy books using the oral method. Thinking had to do with the mind because it was essential for the accretion of knowledge.

Thus, Indo-Fijian learners mainly do well in examinations and tests because they have been trained to educate themselves by memorizing through listening, observation, and limited reading during Hindu prayers and teachings. Hindu education is three simple processes, including *Sravana*, *Sruti, Manana*, and *Niddhyaasana* (Kumari, 2017). *Sravana* is listening to the truth from the Guru, who was the epitome of the best code of conduct. Knowledge was *Sruti* that is heard and not written. *Manana* involves analyzing the Guru's oral impartation, and *Niddhyaasana* means complete comprehension of the truth for life. Learners were encouraged to *Manan* or self-reflection as we do in the modern era (Kumari, 2017).

Then came the paradigm shift in education during the post-Vedic period (Srivastava & Garima, 2013). New teaching and learning methodologies were developed, and the reasons for education and ways of education also changed. The changes in education were made to accommodate the changing world, such as the addition of meditation to learning.

The educator or Guru was the center of education during the Vedic and post-Vedic periods. According to Sanujit, (2011), the educator was expected to possess all morals and spiritual

qualifications. The educator was a model for the learners and society. During the Vedic era anyone could choose their profession until society was divided into caste (Bordia, 2022). However, Vaishyas or farmers, were a chief occupation taught directly by Brahmans. The farmers' education was supplemented with training in other languages, economics, accounting, arithmetic, geography, and sciences. These creations were to support farmers and their business across the country. And it is still practiced in most parts of the world where the teacher is the center of the classroom. The teacher is looked upon as the epitome of all knowledge and in most places in Fiji, especially in rural areas, the senior teachers are requested to provide advice during village meetings. They are requested to give speeches during funerals and religious occasions. They are looked upon and provided with respect and privileges at such gatherings.

Later during the Sutras era, learning became specialized and new areas were developed, such as astronomy, algebra, geometry, physiology, and grammar (Borah, 2013; Bordia, 2022). Oral knowledge was being converted into writing and a need for higher education was emerging. The arts and sciences gained popularity and developed into mainstream learning, such as medicine, architecture, handicrafts, etc. However, the objective of education remained the same over the periods: character and personality formation and the protection of ancient culture.
During the epics of the Ramayana and the Mahabharata, military education of *Dhanurveda* and carpentry were created to support the villages and the settlements (Borah, 2013; Bordia, 2022). In this era, more specialization in education was created in every branch of learning. Experts in every art and science were born. Today, they are called Doctor of Philosophy or Professors in academia.

2.4.1 Models of curriculum development

The curriculum is a phenomenon that includes many dimensions of learning which include rationale, aims, content, methods, resources, time, and assessment, and which relates to multiple representations of learning (Stabback, 2016). Curriculum development could be defined as designing and creating educational courses and programs. It involves determining the goals and objectives of the curriculum. Curriculum development for vocational education involves designing and creating educational programs that prepare learners for specific careers or trades (Maclean & Lai, 2011). This includes identifying the skills and knowledge needed for a particular career, selecting appropriate and adequate instructional materials and resources, and planning the sequence of learning activities to help learners develop these skills. The inclusion

and contributions of industry leaders, professionals, and experts to ensure that the program aligns with the current is part of the vocational curriculum development process. Curriculum development is an essential part of education as it ensures that learners receive a well-rounded and comprehensive education that aligns with educational standards and meets the needs of earners (Surr & Redding, 2017).

Curriculum frameworks provide educators with guidelines for developing and implementing curriculum. These frameworks often outline learning objectives, content standards, and the skills and knowledge learners should acquire at each grade level. Government agencies or educational organizations typically develop curriculum frameworks at the national or state level (Brill et al., 2018).

It is based on current research-backed best practices that promote consistency, equity, and integrity in education. The framework helps ensure all learners, regardless of location or socioeconomic status, have access to high-quality education. Curriculum frameworks vary according to the subject area or grade level. For example, there may be separate frameworks for different subjects, meaning separate for accounting, biology, and arts. It may be continually reviewed to align with educational research, technological advancements, and societal change. Curriculum frameworks with specifically outlined content and skills always guide instructional strategies, assessments, and resources. It serves as a roadmap for educators to inform about their lessons (Brill et al., 2018).

Curriculum development involves designing and implementing a curriculum, including determining the objectives and goals of education, selecting appropriate content and resources, designing instructional strategies and assessments, and evaluating the effectiveness of the curriculum. There are three models of curriculum development:

1. Learner-centered curriculum design involves the data collection of the learners on career aspirations, interests, and learning methodologies or preferred learning styles and then creating appropriate lesson plans (TopHat, 2024). Hence, the idea is to get the learners to play a more active role in learning than the educator-centered approach, where learners are passive

recipients of knowledge and skills (TopHat, 2024). This is the most novel since it puts the learner at the learning process's center.

2. Another approach to curriculum development is subject centered (TopHat, 2024). In this curriculum design model, the learning is based on skills, ideas, and facts critical to the subject. The disadvantage of this model is that the learner mostly memorizes or recalls knowledge and hardly applies it to the real world. This is a standard model used in Fiji. This approach uses discussions, lectures, and questions as the teaching and learning methodology.

3. The third type of curriculum, the Problem-centered curriculum design model (TopHat, 2024), involves seeking answers to real-world problems. This model promotes transferable skills such as critical thinking, collaboration, and communication. In the Problem-solving model, the activities are designed to hone skills learners need after graduation. Learner's construct learning from their experiences and backgrounds to construct or create knowledge and skills to solve real-world problems. This is a favored method of curriculum design; however, it is not implemented because it cannot be assessed using examinations.

Yazzie, (1999) suggests that culture is not limited to traditional knowledge and skills but includes people's local and economic climate, lifestyle, and livelihood. Hence, the curriculum must be developed so learners know 21st-century skills and maintain traditional ethics. For example, critical thinking is questioning the status quo of things, but if the elders are questioned directly, it will be considered inappropriate behavior.

Therefore, the educator must teach both the new and the old to ensure learners learn new ways while maintaining culturally appropriate behavior. A similar concept applies to the ways of doing things in different cultures and ethnicities. Some cultures may find offence to what may be considered normal in another culture. It is also crucial that the earners understand that they need to plan and be aware of the audience they will be addressing in the real world.

When learners are provided with the environment to think critically, approach challenges from different perspectives, and create solutions, it helps them to see many perspectives and think broadly for alternatives or various ways of doing. For example, imagine an educator who wishes

to change a class's behavior towards using excessive chemicals on the farm. They need to include methodologies that make the learner decide that excessive chemicals are not good. Hence, the educator must empower the learners to reach a consensus from their learnings and empower learners for a behavioral change rather than just pass examinations.

Thus, the educator provides the space for the learners to think, evaluate and create solutions for the real-world problems through scenarios, case studies, videos, and similar methods. Group work encourages team spirit and social values (Chauhan, 2023). At the end of the activity, the learners should be able to make an agreed or correct decision: reduce the use of chemicals on farms and accept the decision for lifelong learning. The learners must be able to deconstruct, reconstruct, and construct new knowledge. The learners will have ownership of this learning rather than it coming from their educator during a boring lecture. The learners must be active participants in their learning journey. Building such skills helps develop learners' ability to handle uncertainty, adjust to changing conditions, and make well-informed decisions (Chauhan, 2023). It allows for lifelong learning and adapting to new challenges and continuous learning.
A move towards learner-centered curriculum development and implementation has been voiced by academics at the top level, but it has hardly been the learners' voice. The learning systems in the primary and secondary education systems have always been educator-centered rather than learner-centered, and mostly, the learners become passive listeners. National or standard examinations support these, and teaching and learning are more about pass rates than lifelong learning. Educators focus more on information retention and reproduction than creation and critical thinking. There is so much competition created between learners and educators to get high marks, and it is worse because the ranking of learners is compared with each other rather than the learning. Educators work in isolation and competition, not allowing learners to connect the disciplines.

According to Stabback (2016), the four main categories for judging the quality of a curriculum are the development of the curriculum, the curriculum itself, implementation of the curriculum, and evaluation of the curriculum. Stabback (2016) states that the following concepts make a good curriculum:

1. *Clear learning outcomes: a quality curriculum clearly defines what learners are expected to know and be able to do.*
2. *Scope and sequence: a good curriculum outlines the sequence of topics or skills to be taught, ensuring logical learning progression.*
3. *Engaging and relevant content: a quality curriculum includes materials and resources that are current, relevant, and engaging for the Learners.*
4. *Differentiation: a good curriculum recognizes that learners have diverse needs and abilities.*

2.5 Learner centered curriculum

The ongoing global change pinpoints the need to relook at the current curricula. This raises questions about what a quality curriculum in a technological era should look like and equally challenging issues about how to achieve the necessary changes in schooling for such a curriculum to be realized (Twining et al., 2021). A curriculum provides the structure for quality learning, especially where educators might be underqualified and inexperienced in under-resourced classrooms, and their learners lack the prior frameworks to situate their learning (Stabback, 2016). Some valuable indicators of a quality curriculum are its relevance, consistency, practicality, effectiveness, and sustainability (Stabback, 2016). A quality curriculum would be a 'plan for learning' that supports young people in acquiring the knowledge, competencies, and dispositions needed to be successful in the digital era (Twining et al., 2021).

2.5.1 Connected curriculum

A connected curriculum is a powerful tool in assisting learning and teaching as the learners learn more when they can see connections in their studies. On the other hand, in a separate subject approach, learners view learning as compartmentalized, whereby they may feel that the knowledge or skills they acquire in one class have no relation to what they learn in their other classes (Peppard, 1997). The connected curriculum is also referred to as an integrated or interdisciplinary curriculum. Connected curriculum is an aspect of curriculum engagement (O'Rawe, 2015). The curriculum framework represents six connected dimensions of activity mentioned above, all linking to the core focus and enabling learners to learn through active participation in research and inquiry (Fung, 2017). According to another study, the educator's knowledge and understanding of the connected curriculum is often hazy (Dowden, 2014). The

result is that the design and implementation of the connected curriculum can be haphazard and ineffective despite the best intentions.

The connected curriculum is an educational framework that emphasizes interdisciplinary learning and integrating knowledge across different subjects and real-world contexts. It aims to provide learners with a holistic and meaningful learning experience by connecting different disciplines and helping them understand how knowledge is interconnected (Pathak & Swarnakar, 2023). The connected curriculum approach differs from the traditional subject-based compartment and encourages educators to design learning experiences that bridge the gaps between different subjects. It promotes applying knowledge authentically, encouraging learners to tackle real-world problems and develop critical thinking, problem-solving, and collaboration skills.

The common principle of the connected curriculum includes interdisciplinary approach which encourages the integration of multiple disciplines to explore complex issues, and themes. Authenticity is where learning experiences are designed to mirror real-world contexts, making education more meaningful and relevant to Learners. In inquiry-based learning, learners are encouraged to ask questions, investigate problems, and seek answers through research and exploration, reflection and metacognition. Learners are given opportunities to reflect on their learning, assess their progress, and identify areas for improvement and collaboration and communication with peers, educators, and external experts.

Implementing a connected curriculum requires a shift in teaching practices, curriculum design, and assessment methods (Boud, 2010). It often involves collaboration among educators from different disciplines and ongoing professional development to support educators in adopting new approaches. The connected curriculum has gained popularity recently as educators recognize the need to prepare learners for a rapidly changing world that requires flexible thinking, adaptability, and the ability to navigate complex challenges. Connecting knowledge across disciplines and promoting more profound understanding, the connected curriculum aims to equip learners with the skills and competencies they need to thrive in the 21st century (Drake & Reid, 2018).

Emes and Cleveland-Innes, (2003) noted that there was no evidence in the higher education institutions of learner preferences for learning. The faculty staff sets the content, outcomes, and assessments, experiences, or assessment techniques. Educators determined programme content and options, including the extent of learner centeredness. Hence, the measure for learner-centeredness would be the shift from the role of subordinates to a participant in a shared learning journey.

2.5.2 Creative curriculum

A creative curriculum is an essential educational approach emphasizing creativity, critical thinking, and innovation in learning and teaching. It empowers learners to launch their interests by expressing themselves through various artistic mediums and thinking outside the box to solve their prioritized problems (Acomi et al., 2023). Introducing creative activities increases the risk of lecturing staff and requires more skill and courage than didactic teaching methods (Hargreaves, 2008). It is noted that a creative curriculum goes well beyond the traditional role of learning and thus focuses on developing learners' skills that are essential for success in today's revolutionary world. A creative curriculum incorporates various forms of arts and music (Kampylis & Berki, 2014). This strategy enhances the learner engagement, encourages self-expression, and fosters creativity. Most Pacific and eastern cultures focus on oral, visual and performing arts. Hence, it would be interesting to consider integrating creative arts into the curriculum for teaching and learning. However, the educators must be careful while encouraging learners to draw on their personal heritage because they may lack courage or feel a sense of imposter syndrome (Augusita & Naudin, 2023). Augusita and Naudin (2023) also suggest that learners must not be taken for granted on their ability to communicate and work collaboratively. Hence, the learner's profiles, their interests, and participation in the development of curriculum are important.

Inquiry based projects and learning activities place learners in the center of the learning process (Admin, 2023). Inquiry based learning empowers learners to construct their own understanding of the world through critical thinking, asking questions, investigating, exploring, problem solving, analyzing information, evaluation of alternatives, and discovery. It also encourages the educators to use real world contexts for lifelong learning compared to the traditional teaching methods that focus on superficial learning superficial (Admin, 2023). This learning strategy promotes flexibility for the inclusion of movement, and technology to allow for creativity and

innovation. Inquiry based learning gives the learners the autonomy to decide how they wish to learn and foster a sense of ownership. Learners are involved with more active communication rather than passive takers for articulating their thoughts and ideas. Hence, assessments methods are more inclusive, and learner centered such as self-reflection and evaluation for areas of improvement (Admin, 2023).

A creative curriculum aims to nurture well-rounded individuals who are knowledgeable and equipped with the skills and mindset to adapt, innovate, and thrive in an ever-changing world.

2.5.3 Inclusive curriculum

An inclusive curriculum is an educational approach that aims to create a learning environment where all learners feel valued, supported, and included. It recognizes and celebrates learners' diverse backgrounds, experiences, abilities, and perspectives and ensures that curriculum content, teaching methods, and assessments are accessible and meaningful for all learners (Hector-Alexander, 2019; Akintayo et al., 2024; Opeña & Pontillas, 2024).

Inclusive curriculums embrace and promote representation of different cultures, races, ethnicities, genders, religions, and socioeconomic backgrounds (Hector-Alexander, 2019). This type of teaching and learning considers that the learners have different needs, abilities, and interests, thus, providing multiple pathways, and learning styles. This strategy also promotes learners' diverse identities, and histories. It enhances their sense of belonging (Hector-Alexander, 2019) by ensuring that instructional materials, methods and assessments are accessible and equitable (Ministry of Education, 2016). Inclusive curriculum promotes collaborative and cooperative learning. This type of teaching and learning is reflective of the most Pacific and eastern cultures, such as *Solesolevaki* (reciprocating or groupwork) in the iTaukei culture, which means cooperative problem solving. Such teaching and learning methods help develop empathy, self-awareness and inclusive decision making.

Inclusive curriculum focuses on inclusive assessment practices that can take into consideration the different learning styles (Tai et al., 2023). Hence, assessments are not biased to a few in the classroom and promote fairness. Educators are consistently reviewing their pedagogies and assessments for effectiveness.

2.6 Using a curriculum matrix

A curriculum matrix could be defined as a tool used in the education system to provide a focused overview of the curriculum and its components. The matrix technique may be defined as the flexible, artistic, and collaborative use of the combined problems and matrix by the learners and educators for the social construction of learning experiences and new knowledge (Geelan, 1994). A curriculum matrix embodies three elements (purpose, substance, and practice) and its various dimensions (Foshay, 1991; Foshay & Kirkley, 1998).

The curriculum matrix assists in identifying the relevant topics that need to be covered, which skills should be developed, and how these elements are strategically aligned with educational standards or objectives. The matrix could also be used as a guide for designing assessments. Referring to the matrix ensures educators can cover all necessary content and provide reliable instruction for each topic. The curriculum matrix is intended for use so the proportion of learning activities can be evaluated more efficiently to achieve the learning outcomes for the specified educational level (Eko et al., 2014).

2.7 Principles of Curriculum development

Curriculum principles serve as foundational beliefs and guidelines that inform the design and implementation of educational curricula. These principles shape the overall goals, content, and instructional strategies used in the curriculum. According to Nathani, (2022) some common curriculum principles are as follows:

1. *The curriculum should be relevant and meaningful to the learners' lives, backgrounds, and future aspirations.*
2. *The curriculum should challenge learners to think critically, solve problems, and should build upon and reinforce prior knowledge and skills, providing clear learning progression.*
3. *The curriculum should reflect and respect the diversity of learners' backgrounds, cultures, abilities, and identities.*

Most literature defines curriculum as the planned and organized set of educational materials, resources, and experiences that a school or educational institution uses to guide teaching and learning. It encompasses the subjects, topics, skills, and knowledge learners need to learn within

a specific academic program or course. Table 1 shows what a curriculum typically includes (Zohrabi, 2008):

Table 1: Parts of curriculum (Zohrabi, 2008)

Part	Description
Subject Areas:	The curriculum specifies the core and elective subjects learners need to study, such as mathematics, science, language arts, social studies, and physical education.
Learning Outcomes:	It outlines the specific knowledge, skills, and competencies that learners are expected to acquire by the end of the educational program or course.
Scope and Sequence:	The curriculum establishes the sequence and progression of content and learning activities, ensuring a logical and coherent flow of learning from basic concepts to more complex topics.
Instructional Strategies:	It suggests the methods, techniques, and approaches educators can use to deliver instruction and facilitate student learning.
Assessments:	The curriculum includes strategies and tools for evaluating student progress and understanding, such as tests, quizzes, projects, and portfolios.

Curriculum and pedagogy are two closely related yet distinct concepts in education. Curriculum refers to the content, materials, and activities taught in a specific course or educational program. It includes the goals and objectives of the program, the topics and subjects covered, and the learning outcomes that learners are expected to achieve. The curriculum is often determined by educational institutions or governing bodies and provides a framework for teaching and learning (Scott, 2001; Penney et al., 2009; O'Sullivan, 2013).

Pedagogy, on the other hand, refers to the strategies and methods educators use to facilitate learning. It encompasses the instructional approaches, techniques, and tools employed in the classroom to engage learners, convey information, and promote understanding. Pedagogy focuses on how teaching is delivered and how learners are actively involved in learning (Scott, 2001; Penney et al., 2009; O'Sullivan, 2013).

The curriculum outlines what is taught, pedagogy addresses how it should be carefully designed and integrated to ensure meaningful and impactful learning experiences for learners. It serves as a guide for educators to plan and organize their instruction. Curriculum is developed to ensure a balanced set of learning experiences for learners. The curriculum also helps to establish educational standards and benchmarks, ensuring consistency and comparability across schools and districts (Al-Eyd et al., 2018; Okojie et. al., 2022; EMS, 2024).

Instruction is a plan of teaching and learning activities in which learning and planning motivate learners to learn (Isman et al., 2012). Good instruction begins by knowing the learners' characteristics and learning styles across various dimensions (Giangreco & Cravedi, 2007). The main objective of instructional strategies is to ensure learners can efficiently understand academic concepts and perform well academically (Isman et al., 2012). Active learning instructional strategies can be created and used to engage learners in thinking critically or creatively, speaking with a partner, in a small group, or with the entire class, expressing ideas through writing, exploring personal attitudes and values, giving and receiving feedback, and reflecting upon the learning process (Eison, 2010).

Instructional strategies using questions, classroom discussion, self-directed study, inductive and deductive thinking, media, or social media make learners engage learners in learning activities and create innovation in learning (Seechaliao, 2017; Eubanks, 2020). Choices of methods and instruction timing affect the learning rate and persistence (Rohrer & Pashler, 2010). According to Cuthrell and Lyon, (2007), for an online instruction preference study, learners indicated appreciation of a mix of instructional strategies incorporating more interactive technological modes of instruction with independent, passive modes. While preparing online instructions, educators need to consider time constraints, lack of access to gadgets, poor internet connectivity, and costs.

Educators must be situational in applying instructional strategies to assess each student's instructional needs and then align the appropriate strategy with the assessed needs (Thomas & Green, 2015). Instructional design can be defined as the science of creating detailed specifications for designing, developing, evaluating, and maintaining instructional material that facilitates learning and performance (Martin, 2022).

The teaching practices in the local context reflect a traditional outlook on the methodology used for imparting education. Consequently, higher education institutes desire the student's performance and outputs to produce professionals who can assume future roles and responsibilities (Zaki & Rashidi, 2013). Instructional practices vary depending on the subject matter, the needs of the learners, and the educational goals.

Curriculum mapping aims to promote consistency and clarity in instructional planning and delivery. It allows educators to identify gaps, redundancies, and areas for improvement within the curriculum (Al-Eyd et al., 2018; Okojie et. al., 2022; EMS, 2024). By mapping out the curriculum, educators can ensure that all necessary standards and learning objectives are being addressed and that there is a logical progression of content across grade levels or subjects. The process of curriculum mapping typically involves several steps. First, educators analyze their standards or learning objectives to determine what needs to be taught. Then, they break down these objectives into smaller, more manageable units or topics. Next, they establish the sequence in which these topics will be taught, ensuring a logical progression of skills and knowledge.

Once the topics are identified and sequenced, educators can develop or select appropriate instructional resources and assessments to support the teaching and learning process. These resources may include textbooks, digital materials, lesson plans, activities, and assessments. Curriculum mapping also allows for identifying instructional strategies, differentiation techniques, and assessment methods that cater to Learners' diverse needs and learning styles (Al-Eyd et al., 2018; Okojie et. al., 2022; EMS, 2024). It helps educators consider the big picture while designing lessons and ensures that the curriculum is aligned with the desired learning outcomes.

Furthermore, curriculum mapping enables collaboration among educators, as they can share their mapping documents or visual representations, facilitating discussion and alignment of instructional practices. Curriculum mapping is a valuable tool for educators to ensure that their curriculum is well-structured, organized, and aligned with educational standards. It promotes effective teaching and learning by providing a clear roadmap for instruction, assessment, and instructional resource selection (Al-Eyd et al., 2018; Okojie et. al., 2022; EMS, 2024).

2.8 Educators and Curriculum

Higher education quality heavily depends on the quality of the teaching-learning process, which relies on the educators' teaching philosophies and practices (Zaki & Rashidi, 2013). Effective instruction includes carefully selecting appropriate instructional materials, designing learning experiences, providing clear explanations, using various teaching strategies, and assessing student understanding and progress. It also involves engaging and re-engaging learners, facilitating their understanding, and promoting active learning. Several instructional methods range from lectures and demonstrations to discussions, group work, hands-on activities, and technology integration. According to Hajian, (2019) selected instructional practices will predominantly be based on social constructivist approaches to learning, such as situated learning theory. This choice is due to the extensive employment of contextual and inquiry learning methods in science and technology research.

Developing learners' creative and critical thinking skills is vital to enable them to solve non-routine problems in the modern world (Ulger, 2018). Creative thinking, the prerequisite for any creative process, output, and outcome, presupposes the active and intentional involvement of the person who creates it and can be fostered by appropriate education (Yambi & Yambi, 2020; Kampylis & Berki, 2014). While everyone has creative thinking skills and ideas, children have more as they are not yet fully aware of rigid logic and convergent views. Creative thinking enables learners to apply their imagination to generate ideas, questions, and hypotheses, experiment with alternatives, and evaluate their and their peers' ideas, final products, and processes (Kampylis & Berki, 2014).

Fung, (2017) and Peppard, (1997), listed each of the six framework dimensions below highlights the ways of thinking about conceptual and human connectivity, raising several questions for discussion.

Dimension 1:

Learners must connect with research through clear research intent that builds as part of teaching and learning.

Dimension 2:

The educator must be able to create learning activities that learners are able to demonstrate and develop creative and critical thinking skills apart from gaining knowledge and information.

Dimension 3:

Learners must be able to connect the classroom to the outer world.

Dimension 4:

Learners can connect academic learning and workplace learning.

Dimension 5:

The assessments must enable learners to showcase their effectiveness at using different modes of learning to express insights or arguments to target audiences.

Dimension 6:

Learning must be interdisciplinary and collaborative with other fellow learner within and across institutions and especially in engagement with the community.

Many educators are anxious to learn the latest techniques – practices they hope will magically work on learners. They implicitly perceive the academic achievements of subordinated learners as a technical issue. The solution they require is also expected to be technical (e.g., specific teaching methods, instructional, curricular, and materials). According to Balliste, (2007) the usual assumptions are that:

1. *Educators are exemplary and do not need to identify, interrogate, and change their biased beliefs and fragmented views about subordinate learners.*
2. *Higher education institutions are fair and democratic sites where all learners are provided with similar, if not equal, treatment and learning conditions.*
3. *Learners who experience academic difficulties (especially those from culturally and linguistically low-status groups) require some form of special instruction since they have not been able to succeed under regular or normal instructional conditions.*

Consequently, if nothing was wrong with educators and higher education institutes, they often concluded that linguistic problems could be dealt with by providing educators with specific teaching methods that promised to be effective with culturally and linguistically subordinated

learners (Balliste, 2007). To further complicate matters, many educators seek generic teaching methods that work with various minority learners. They become anxious and impatient when reminded that instruction for any group of learners needs to be tailored or individualized to some extent. Some educators seek what (Balliste, 2007), defines as a 'one size fits all' instructional recipe. Balliste, (2007) explains the assumption that instructional methods deemed adequate for the mainstream population benefit all learners regardless of their backgrounds.

> *Those who market that one size fits all products suggest that if the article of clothing was not a good fit, the fault was not with the design of the garment, but those who are too fat, too skinny, too tall, too short or too high waisted* (Balliste, 2007).

One of the most significant challenges was for the educator to understand that a narrow focus on methodology often complicates the real question –why subordinated learners generally fail academically in schools in our society?

Educational institutions reflect the incredible society's culture, values, and norms, both the positive and negative aspects of society. Thus, unequal power relations among various social and cultural groups at the societal level are usually reproduced at the institutional and classroom levels unless a concerted effort is made to prevent reproduction.

Guerriero's, (n.d.) research has shown that educator quality was essential in determining student achievement gains. The prior student learning, family background and characteristics were accounted for during the assessment. Predictors of educator quality have typically included factors such as class size, certification, type of qualification, degrees earned, or years of experience. Another less studied indicator of educator quality was educators' pedagogical knowledge. *Pedagogical knowledge* refers to educators' specialized knowledge for creating effective teaching and learning environments for all learners (Guerriero, n.d.).

Berryman et al., (2011) stated that a culturally responsive pedagogy of relations is accomplished when it creates contexts where learners can be more self-determining. Responsive pedagogy was interactive and dialogic. All learners' cultural experiences are valid, knowledge was

actively constructed, and participants were connected by establishing a shared vision of educational excellence.

The educator can implement strategies that promote a responsive and interactive role where learners can exercise autonomy in higher education Institute learning. Educators assume a co-constructive or facilitative rather than a directive transmission role. Therefore, the breadth of these observation parameters was an attempt to provide greater scope for examining evidence that generated a range of practical and meaningful solutions for educators and learners. Thaman, (1999) emphasizes that for cultural inclusiveness in schools and higher education institutions, the target needs to be educators because they can bridge the cultural gaps between the learners' home cultures and formal education expectations.

Thus, the educators'/facilitators' assessment role in classrooms is positively changing (Davies, 2007). The assessment process impacts the learner and the result (Torrance & Pryor, 1998). The Vygotsky model suggests that it is essential to identify what pupils have achieved and what they might have achieved. Then, they were ready to accomplish with the help of an adult or, in some circumstances, collaborating peers in the 'zone of proximal development.

Matusov, (1998) argues that there is a difference between social and individual processing. According to this study, guidance and learning are not separable, where the educator recommends the student to internalize. Matusov (1998), goes on to say that learning happens both in novice and expert. This means that learning happens in both ways. While the learner is internalizing the curriculum through guidance from the educator, the educators are also learning the values, knowledge, or lack thereof, learner interests, inquiries, and experiences. This helps the educator to develop a new curriculum that is more student-centered.

Another example of the transformation of adult learning is the movement from traditional to innovative teaching and learning. Transformation is a process in which new skills, knowledge and attitudes are built on existing forms of participation where participation refers to a broader sociocultural context (Tisdall 2013). Internalizing this existing knowledge to create new knowledge, skills and attitudes is known as learning because what is considered unique is usually built on existing knowledge, skills, and attitudes. In this process, the educator acts as the facilitator or guide, and the learner is responsible for their learning (Matusov, 1998).

2.9 Assessments

According to the Merriam-Webster dictionary (2024) assessment is the action or instance of making a judgement about something. However, for over 500 years, it was used as a verb in monetary terms to determine the rate or tax. Later, it was defined as valuing a property (Merriam-Webster, 2024). The FHEC glossary definition of assessment is the process of collecting and evaluating evidence to establish the level of an individual's performance against prescribed learning outcomes.

Learners have always been involved in assessment but as examinees only. Examinations have been prepared for generations, marked, moderated, ensured confidentiality, and regulated for learners, but the learner is never part of the process. The marking process is done by the experts. This has encouraged learners to become passive takers and focus on the grade rather than learning (Falchikov, n.d.).

Davies (2007) said that education is not about memorization and basic practical knowledge such as listening, following directions and being a good citizen. Learning has become complex. The need for what needs to be learnt and the standards or learning outcomes have become a priority. There is a need for learners to understand how to learn, how to work with others, and how to assess their way to success. Everything is based on evidence of learning on what the learner says, does or creates (Davies, 2007). Learning is a lifelong journey.

The 21st-century skills or the values of global citizenship require learners to be problem solvers, team players, creative designers, critical thinkers, and climate change resilient. How are all these values tested using examinations and tests? It is scary when such assessment methods measure what learners do not know or can do rather than what they know or can do. This is not to say that tests and examinations cannot be used, but they certainly can be improved and should not be the only way to determine achievements. Assessments should be inclusive of the learner and based on evidence. As stated by Davies (2007), learner involvement in the assessment process by setting criteria, giving, receiving feedback and providing evidence encourages learning and quality evidence.

Assessments play a significant role in how learners learn, their motivation for learning and how educators/facilitators teach. Assessments can be for, as or of learning. Assessment for learning is where educators/facilitators get insight into learners' understanding for future planning and preparing instructions (Klenowski, 2009). Assessments as learning provide awareness for adjustments during the teaching process and assessment of learning inform all the stakeholders involved in the learner's success and plan interventions for progress.

Assessments are conducted using various methods. However, only the six major assessment types (Sager, 2023; Kampen, 2024; Staff, 2024) will be listed and described below for this research.

1. *Diagnostic assessments: sometimes called pre-assessments. Diagnostic assessments explain the strengths and gaps to place or screen learners* Burke et al., 2023).
2. *Formative assessments: Formative assessments are carried out during learning. The purpose is to ensure that the set of instructions meets the goals or objectives of the lesson* (Trumbull & Lash, 2013).
3. *Summative assessments: Summative assessments are carried out at the end of teaching and learning. It is mainly used to judge learners' achievements against outcomes and measure improvement with the next cohort* (TKI, n.d.).
4. *Ipsative assessments: Ipsative assessments measure intra-learner performance. It measures student progress and allows the facilitators to improve themselves* (Campbell, 2023).
5. *Norm-referenced assessments: Norm-referenced assessments compare learner performance against the average norm. It involves a group or population of learners* (Beilinski, 2022).
6. *Criterion-referenced assessment: Criterion-referenced assessment measures performances against predetermined criteria or learning standards* (Green, 2002).

So how does an organization guide the educators/facilitators on using inclusive, appropriate, culturally sensitive, learner centered, and correct assessment methods? Or is there a need for a cultural shift in how assessments are conducted and implemented towards more inclusive and learner-centered assessments. Research showed that a few higher education institutions use an

assessment framework to guide educators/facilitators. However, this study could not find one for the Fijian context.

Assessment and instructions are closely linked. Alignment of instruction and assessment is fundamental for accurately measuring student learning. As such, the alignment or coherence among curriculum standards, instruction, and assessment is essential for standards-based assessment and evidenced-based instructional programs (Abrams et al., 2017). Using assessment data to inform instruction is integral to a comprehensive assessment program. Examining educators' data use for instruction can reveal how instruction is aligned with established content standards and assessment (Abrams et al., 2017).

Alignment research means demonstrating or evaluating the connection between testing, content standards (i.e., curriculum), and instruction. Suppose these components work together to deliver a consistent message about what should be taught and assessed then, learners can honestly demonstrate what they have achieved (Martone & Sireci, 2009). However, if the individuals or groups of learners are not afforded opportunities to learn the skills and concepts on standards-focused assessments. In that case, they can quickly become scapegoats for nonrunners for further studies or scholarship (Roach et al., 2008). Educators must demonstrate that what is covered on mandated tests aligns with what occurs in the classroom, both in the curriculum and the instruction. Alignment has been defined as the extent to which curricular expectations and assessments agree and work together to guide educators' efforts to facilitate learners' progress toward desired academic outcomes (Roach et al., 2008). Instruction should align with the goals, content, and learning outcomes specified in the curriculum. Although developing and documenting the alignment among elements of the educational system is mandated, it has received scant research attention in school psychology and related fields (Roach et al., 2008). The facilitators must ensure that instructional practices reflect and support the intended curriculum.

While the curriculum may outline general expectations, the instruction should be tailored to meet individual learners' diverse needs and learning styles. Learners' varying abilities, interests, and backgrounds are addressed for effective instruction involves differentiating instruction to accommodate student differences and promote equitable learning opportunities. It underlines that facilitators could modify the instructional methods, materials, or assessments.

The distinction between formative and summative as applied to student assessment emerged in the 1960s, having originated in identifying the roles of program evaluation in developing new curriculum materials (Dolin et al., 2018). There is a plethora of information on formative and summative assessment. As such, both have come into full circle after decades of debate. Instruction should include formative assessments to monitor student progress and provide feedback for instructional adjustments. Formative assessment encompasses a whole host of tools that provide feedback to educators or learners to help learners learn more effectively and provide an ongoing source of information about current student understanding so that educators can adjust instruction (Dixson & Worrell, 2016). Two primary forms of formative assessments that occur are spontaneous and planned. As the name suggests, spontaneous formative assessments are impromptu when question-and-answer sessions are conducted during a lesson. These activities provide real-time student learning information. Planned formative assessments include activities such as quizzes and homework exercises that are assigned to assess student progress (Dixson & Worrell, 2016).

Summative assessments evaluate learners' overall achievement of curriculum objectives. Summative assessments are almost always graded, are typically less frequent, and occur at the end of instruction segments. One of the most common summative assessments used is the mandated tests. Performance-based assessments are another form of assessment that requires learners to demonstrate their knowledge instead of simply recalling what they have memorized. Educators must be mindful of their assessment goals and how they use assessment results to choose the best tools to accomplish the goal (Dixson & Worrell, 2016).

In Cassady and Gridley's (2005) study of formative and summative assessments, there was no detriment to learners' perceptions of tests or performances on tests when comparing online to paper-pencil summative assessments. Learners taking tests online reported lower levels of perceived test threat. In the same study for formative assessment, findings indicate a small benefit of using online practice tests before graded course exams. This effect appears to be partly due to reducing the harmful effects of negative test perceptions afforded in conditions where practice tests were available. The results support the integration of online practice tests to help learners prepare for course exams and reveal that secure web-based testing can aid undergraduate instruction through improved student confidence and increased instructional time (Cassady & Gridley, 2005).

On the other hand, assessment is the process of gathering evidence to evaluate learners' learning outcomes and determine their level of achievement or proficiency. It serves multiple purposes, including providing feedback to learners, identifying areas of improvement, guiding instructional decisions, and measuring the effectiveness of the curriculum. Assessments can take various forms, such as exams, assignments, projects, presentations, and standardized tests (Yambi & Yambi, 2020; Masters, 2014). The relationship between curriculum and assessment is reciprocal and interdependent. A robust curriculum should align with appropriate assessment methods to gauge learners' understanding and mastery of the intended learning outcomes. Conversely, assessment results inform educators about the effectiveness of the curriculum, allowing them to make necessary adjustments and improvements.

Both curriculum and assessment should be designed with specific considerations, such as the learning objectives, educational standards, Learners' diverse needs, and the overall aims of education. A well-balanced and comprehensive curriculum ensures learners receive a broad and relevant education, while assessments provide valuable insights into their progress and achievement (Fuentealba 2011).

It is important to emphasize that a student-centric approach should be adopted when developing curriculum and assessment strategies. This means catering to individual learners' needs, promoting critical thinking and problem-solving skills, and fostering a supportive and inclusive learning environment. Moreover, a holistic approach to assessment, including both formative and summative assessment methods, helps provide a comprehensive view of Learners' progress and growth.

Curriculum and assessment are crucial elements of the educational process. A well-designed curriculum sets the stage for effective learning, while assessments provide valuable feedback and measurements of student achievement. To ensure the best outcomes, curriculum and assessment should be thoughtfully planned, aligned, and continuously reviewed and improved upon. Curriculum mapping is a process used in education to align instructional objectives, content, and assessments systematically and coherently. It involves creating a visual representation or a document that displays the relationship between the various components of a curriculum, including the knowledge, skills, and concepts that need to be taught.

2.10 Education theories and principles of assessment

There are four major theories of learning. They include behaviorism, cognitivism, social constructivism, and connectivism (All Answers, 2018). Behaviorist theory originated from Pavlov's theory of positive stimulation. In this theory, the educator is the center of the learning process (Brau et al., n.d.). It includes classroom practices such as games and quizzes for lower-level knowledge and understanding. This method of teaching and learning is standard in Fijian classrooms, including higher education. The educator is responsible for learning, and the technique of disseminating knowledge is mainly lectures. This theory does not acknowledge the differences in learners (Ertmer & Newby, 2013; All Answers, 2018; Oyarzun & Conklin, 2021).

The cognitivism theory is based on Piaget's theory of mental processing. It includes mind mapping, visual aids, presentations, and spider maps. However, studies show that cognitivism encourages creativity and critical thinking.

Vygotsky, (Brau, 2020) and Bruner, (Mcleod, 2024) discovered the social constructivism theory. They suggest that learning occurs when learners are actively involved through self-lead or socializing. Group work is a standard method used in Fijian classrooms by educators. Learners also enjoy group work activities over solo assignments.

Finally, connectivism theory is the newest theory of digitalization. The theory suggests that technology supports learning for creativity, collaboration, and decision-making. Connectivism was the most used method of teaching and learning during the covid19 pandemic. Classes were held on digital platforms, and learners completed assignments and assessments online. A lot of rethinking and realignment of educational strategies and tools have been in process after the covid-19 pandemic. The whole education system approach has been affected and new ways of doing is being suggested including digitalizing learning.

There are four models of assessments (All Answers, 2018), namely observation, survey, portfolio, and performance task models. The four models use different assessment methods to collect evidence, make judgments, or evaluate learner's progress and weaknesses. For effectiveness and benefit, assessments must be seen as a process and not an event (Gilmore,

2019). A learning system helps improve the processes and tools over time through active participants and stakeholders. A facilitator/educator's knowledge of each learner is essential to ensure that the assessment is fit for purpose (valid), dependable (reliable), appropriate (fair) and realistic (authentic).

Validity ensures that the measure/tool assesses what it is intended to determine in assessments (Hurst, 2012). For example, using a scale to measure 100 grammes of flour should give you exactly 100 grammes of flour. However, the scale is invalid if the scale reads 100 grammes and the content is less or higher. Validity is also affected by external and internal factors, for example, the learner's level and ability to read and understand a question. If a learner has difficulty comprehending a question, the test is not an accurate way of assessing the learner's understanding of the subject matter. Ensuring the correct reading level of the learner is essential to ensure the validity of the assessment. Self-efficacy and emotional and physiological factors also affect the validity of an assessment. It can hinder knowledge and comprehension.

Assessment tool validity is measurable using a coefficient. Five types of validity must be considered when developing assessments. It includes content, constructs, predictive and constructs.

Firstly, content validity refers to how the measurement covers all aspects of the measured concept (Middleton, 2021). For example, if a language test is conducted on learners, it consists of reading, writing, and speaking. However, it misses measuring listening ability, which shows that the test lacks content validity for measuring the overall level of the tested language.

The second validity type constructs, assesses the adherence of a measure to existing theory and knowledge of the concept. For example, introductory algebra will be tested for rate, time, distance, and interrelationship. However, the test was constructed using long phrases and complex passages that will inadvertently measure reading skills instead of factual knowledge of introductory algebra (Hurst, 2012).

The third is called convergent validity. It refers to the provision of evidence from two different tests that are believed to measure closely related skills or types of knowledge. For example, a

questionnaire on self-esteem could be assessed using other traits similar or related to self-esteem, such as social skills and optimism. The strong correlation between the scores of the two assessments could indicate high construct validity (Hurst, 2012).

The fourth validity type is known as discriminant validity. It measures non-related skills or knowledge in two different tests that do not correlate. The fifth validity type is called criterion validity. It means that the result of a measure or assessment corresponds to other valid standards or assessments of the same concept (Middleton, 2021).

Reliability in assessments is accuracy and consistency (Kime, 2017). Like validity, the end-users determine the reliability of an assessment. Many factors contribute to the reliability of an assessment. However, the two most critical ones are:

- *The precision with which questions or tasks are prepared to get learner responses* (Kime, 2017).
- *The accuracy and consistency with which the educator/facilitator interprets learner responses* (Kime, 2017).

Regardless, no assessment can be 100% reliable. An error is always present (Kime, 2017) in some form or another. Some of the errors stated by Kime (2017) include:

- *The unfamiliarity of the topic in assessment.*
- *Lack of knowledge of robust assessment practices.*
- *Biases*
- *The subjectivity of the material is to be assessed.*
- *The conditions in which the assessment takes place are not conducive*.

To improve the reliability of assessments, we need to strengthen inter-rater and intra-rater reliability. Inter-rater reliability is getting people to agree with each other. Intra-rater refers to the accuracy and consistency of one's judgments. Thus, Kime (2017) suggests that to increase the quality of data derived from the assessment process, we need to:

- *Ensure the criteria for marking assessments are explicit and clear.*
- *Blind marking assessments to reduce bias.*
- *Moderate sample assessments for professional development and sharing standards.*

Reliability is also measured using the reliability coefficient ranging from 0-1. Low reliability indicates more errors in the assessment result. A reliability coefficient of
0.80 or above is acceptable (Hurst, 2012; Kime, 2017).

Authenticity in assessments requires learners to engage in real-world situations or simulations of actual situations for assessments (Shaw, 2019). It allows for scaffolded learning. Scaffolding is a method where educators/facilitators support learners as they learn and develop new concepts or skills (GCU, 2020). Scaffolding is also called, I do-we do-you do. Scaffolding is associated with Vygotsky's theory of the zone of proximal development. Theories, including constructivism, cognitive, and sociocultural theory, share core principles (Shepard, 2005). However, two main principles stand out (Shepard, 2005):

- *We construct knowledge.*
- *Learning and development are culturally embedded or socially supported processes.*

It is important to note that scaffolding works well with formative assessments. Formative assessments account for a learner's understanding and develop it for greater competence. From a sociocultural perspective, it is a collaborative process involving negotiation between the educator/facilitator and the learner to improve performance. Thus, it allows for active learner participation in assessments.

Learners build understanding by making sense of new experiences from what they already know (Shepard, 2005). New is woven into the learner's worldview, eliciting relevant knowledge and skills. A routine eliciting and building on prior knowledge and skills is needed for the cultural shift to a learning classroom.

The culturally appropriate and competent ways of assessments must be able to achieve the third (transformation) and fourth (decision-making and social action) approaches to integrate cultural content into the curriculum (Diaz, 2001). It must change the curriculum paradigms and enable the learners to view concepts, events, and people from diverse ethnic and cultural perspectives and understand knowledge as a social construction. The curriculum will allow the learners to pursue projects and activities that enable them to make personal, social, and civic actions related to cultural concepts and knowledge. A study of learners' diverse cultural backgrounds (Diaz, 2001) found that academically successful learners were those whose home cultures were similar or where such differences were surmountable.

Shepard (2005) said that direct feedback on learner performance can have a negative impact. Positive learning is more likely if feedback is focused on the task to standards and learning goals instead of normative comparisons. Learning goals refer to an individual becoming competent, called intrinsic motivation. In contrast, performance goals refer to the task completed for grading and external motivation.

The learning objective is for learners to apply their knowledge and skills in new situations. However, education in Fijian classrooms is often compartmentalized and inert. It requires encouraging learners to think about their learning. It means knowing when you don't know and what to do when you don't know. This process is called metacognition.

Appropriate (fair, equitable, doable, authentic) assessments mean giving equitable opportunities to learners to demonstrate what they know (Suskie, 2000). Equity means striving to achieve the best outcomes for each learner (Brown, 2021).

While we want to offer the same things to learners with the notion that they can learn to the fullest, we also realize that not all learners have the exact needs. Thus, creating equitable or fair education and assessment does not only offer learners what they need to succeed. But to empower them to recognize and develop their talents and skills to become change agents for their futures. Fairness relates to equitable achievements for all learners regardless of socioeconomic, racial, and ethnic backgrounds (Brown, 2021).

Behaviorists believe a fair test must correspond precisely to what Educators/facilitators have taught (Shepard, 2005). Educators/facilitators should not assess learners on something they have not experienced during the teaching process. The questions in a summative assessment should not be fundamentally different from the classroom instruction experience. The likelihood of such practices may reduce learner's ability to use their knowledge and skills in different contexts or problems (Shepard, 2005). Instead, they should foster a classroom culture that challenges learners to apply what they have learned to various issues.

There are many theories to explain and demonstrate the way people learn. However, for this research, we will consider the different models under the three major approaches mentioned below:

1. Behaviorist approach - refers to the learner's response to stimulus. There are three main models under the behaviorist approach. It includes Pavlov's classical conditioning model, Skinner's positive and negative reinforcement model, Gagne's instruction model, and the social learning theory through observation model.

2. Cognitive approach – is based on knowledge and knowledge retention. In contrast, cognitive theories relate to the active mind processing learning opportunities and developing them (Mathew, 2014). Two models under this approach include John Dewey's learning-to-think model and Bloom's parallel learning between the cognitive and affective domain model.

3. Humanistic approach – based on explanations of individual experience. The third approach is more recent and considers a pluralistic approach. The stress on valuing diversity in many organizations and societies reflects this ideology. There are three main models under this approach. It includes pedagogy and andragogy instruction and process, David Kolb's experiential model and Bandura's self-efficacy theory model.

Behaviorist and cognitive learning approaches are most commonly used by educators, such as assessments through observation, instruction, reinforcement, and stimuli. However, the cognitive and behaviorist theories mainly focus on knowledge and skills development hence,

this research will also include the humanistic approach to learning to consider developing the learner attitude and inclusive learning.

The Andragogy model has seven desired outcomes that promote democracy. These are self-knowledge, global citizenship, a positive attitude, seeking truth, personality, essential values, and social order (Kurt, 2020). The seven outcomes help adults to better understand themselves for self-growth and self-respect. It allows differentiating between people and ideas while allowing respect and disagreement, thus promoting empathy, and helping those in need. Being open and accepting changes develops resilience. The model sets adults seek an understanding of the root cause for a displayed behavior to find solutions. Most importantly, it creates an awareness that society's values are binding, and shared ideas and traditions are critical components of the different communities. They understand these rules and values and contribute as productive citizens (Kurt, 2020).

Malcolm Knowles's andragogy is the art and science of adult learning (Pappas, 2012). It is based on five assumptions as follows:

1. *Self-concept is where a person moves from a dependent personality towards a self-directed human being.*
2. *Adult Learner Experience is when their accumulated experiences become a resource for learning.*
3. *Readiness to learn is where a person becomes oriented towards developmental tasks of their social roles.*
4. *Orientation to learning is when a person's learning shifts from subject centered to problem- centered.*
5. *The motivation to learn is internal.*

Thus, adult learning must involve adults in the planning and evaluation of their instruction. Experience provides the basis for learning, including mistakes. Adults are interested in learning subjects that have immediate relevance and impact their jobs or personal lives. Finally, adult learning is problem-based rather than content-oriented (Pappas, 2012).

The second model of learning by David Kolb is the experiential model. Kolb (2016) states that learning is a dynamic process of constructing knowledge based on experience, reviews, observations, and reflections. The diagram shows Kolb's experiential learning cycle.

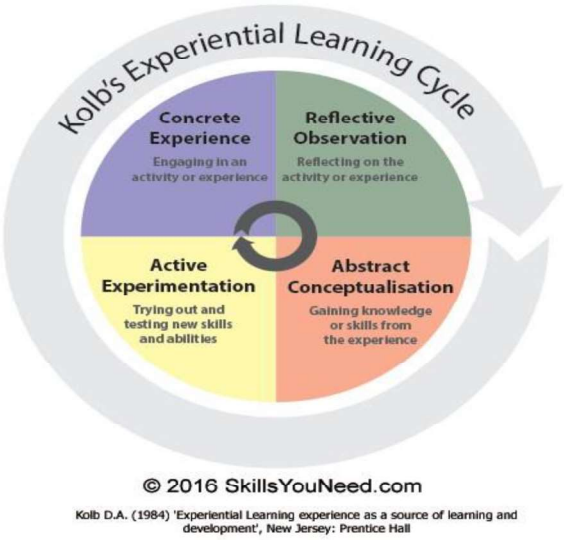


Figure 17: Kolb's experiential learning cycle. Source: Mathew, (2016)

The third model or the humanistic learning approach is Bandura's self-efficacy theory (SET) of social learning. In this model, people appraise their level of competence in education. The SET model suggests that all individuals are competent in being successful. However, they must have the opportunities and self-efficacy to pursue their goals. The model empowers individuals and communities to attain goals (Gallagher, 2012). SET works in three ways. Firstly, a strong sense of efficacy is created through mastery experiences. Success builds a strong belief that individuals can produce a desired or intended result (Bandura, 1994). On the other hand, failures undermine it, mainly if failures occur before establishing a sense of efficacy. However, quick, and easy successes could also be detrimental. Difficulties and perseverance should be part of the journey to self-efficacy for resilience.

The second way of creating and strengthening self-efficacy is through experiences provided by people in the community who may feel like themselves (Bandura, 1994). However, observing failures despite efforts may not work positively. Thus, modelling must be carefully done, and a deep understanding of the model's success and failure must be provided.

Thirdly, social persuasion is a way of strengthening people's beliefs. Persuading individuals that they can master given activities encourages personal efficacy. Self-efficacy is built on positive appraisals supported by self-improvement rather than triumphs (Bandura, 1994).

Thus, all the approaches discussed above emphasize the importance of involving learners in the assessment process. Involving learners helps them manage and take ownership of their learning. In the planning stage, Learners can inform their Educator/Facilitator of anything that may affect their progress or achievement through a SWOT (strengths, weaknesses, opportunities, threats) analysis (Jones, 2015).

2.11 Culture in education

According to Nortvedt, (2020) a valid and reliable assessment practice must account for learners' cultural ways of knowing and participating. The aim should be establishing classroom practices that encourage peer assessment, regard errors as learning opportunities, and promote shared thinking.

Culture is not just a list of holidays, shared recipes, religious traditions, or language. It is a lived experience unique to an individual. To truly engage Learners, culturally and linguistically appropriate ways must be used. However, it must not encourage cultural assumptions and stereotypes. Culture is a multifaceted term (Nortvedt, 2020). Culture is not easy to define. Cultural groups are internally varied, and individuals have diverse beliefs and practices. The definition of culture has evolved over the last century.

Pacific has constructed its version of culture and tradition (*kastom, passim, tumbuna, Maoritanga, fa'a Samoa, Vaka Vanua*). It has its specific authority and definition by which they wish to be known to the outside world. However, the meaning of culture went through a historical transformation. According to Hooper (2005), the definition of culture became a self-conscious, objective, valorized marker of difference that could help against colonial and political oppressions. The definition of culture by Thaman (1993), is a fitting one for this research. According to Spencer-Oatey (2021), culture defines a fuzzy set of values, behavioral

conventions, beliefs, attitudes, and assumptions shared by a group of people, which influence their behavior and interpretations of the behavior and beliefs of other people.

> *Culture means the way of life of a discrete group, including its accumulated knowledge and understanding skills, beliefs, and values. Following the tradition of cognitive anthropology, culture is seen as central to understanding human relationships. It acknowledges that members of different cultural groups have unique systems of perceiving and organizing the world around them. It means that how we are socialized, to a considerable extent, influences our behavior and ways of thinking – in other words, the way we see the world around us* (Thaman, 1993).

The definition by Konai resonates with the definition by UNESCO given below:

> *A set of distinctive material, spiritual, emotional and intellectual features of society or a social group is defined as culture. It encompasses not only art and literature but lifestyles, ways of living together, value systems, traditions, and beliefs* (UNESCO, 2009).

Culture is subjective and socially transmitted from one generation to another. New knowledge, skills, behavior, values, attitudes, and meanings are also shared. Thus, a new way of knowing, doing and being was created from or constructed on ancient knowledge, skills, and values. Meanings were transmitted via artefacts and symbols.

Zimmermann (2017), explains culture as the characteristics and knowledge of a particular group of people, encompassing language, religion, cuisine, social habits, music, and arts. Culture is not static. It is fluid; thus, it cannot be defined in one way only. While change is inevitable, the past must be respected and preserved.

As explained by Thaman (1993), the difference between culture and ethnicity is quite interesting. According to Thaman (1993), ethnicity is like race, a biological difference, whereas culture is a social concept based on shared values, behavior, and performance. This research

will use the difference between ethnicity and culture to ensure that culture and ethnicity are not confused. Later in the methodology, the terms Indo-Fijian and Hinduism are explained in detail. Indo is biological, and Fijian is cultural. Thus, Indo-Fijians look like the Indian indentured laborers biological; however, their way of doing, knowing and being is Fijian-cultural.

According to Sugai et al., (2012) cultural competence is required in the following broad categories:

a) *The attitudes/beliefs component refers to understanding one's cultural conditioning that affects personal beliefs, values, and attitudes.*
b) *The knowledge component refers to understanding and knowing the worldviews of individuals and groups with cultures different from yours.*
c) *Skills component refers to using culturally appropriate intervention or communication skills.*

Individuals who understand a culture's actions and beliefs and act as per the norms of a culture are characterized as being culturally appropriate, proficient, competent, sensitive, harmonious, and responsive. There is a tendency for educators/facilitators at the post-secondary level to assume that learners have mastered the art of assessments from their secondary and primary schools. However, according to Annandale, (2021) learners acquire knowledge and skills from their pedagogical practice. Although an assessment policy may be in place, its implementation's rationale, review, enforcement, and acknowledgement can be highly variable. The assessment policy may or may not cover the individual educator/facilitator's expectations or learner experiences. Thus, one must assess the degree to which cultural factors are essential to the learner and how behavior is culturally influenced.

While individual thoughts, attitudes and beliefs come from larger groups, individual variation must be expected, and individuals can be affected by multiple cultural influences (Chu et al., 2013).

2.12 Space/place in education/classroom for culturally appropriate assessment

In the last 30 years, I either developed or marked assessments or trained assessors to develop assessment tools. It was always a mystery that assessment-related theories were less explicit than learning and curriculum theories. However, assessment practices have been part of the

educational system for centuries. Therefore, a framework to organize and question ideas, principles and assumptions may be an appropriate tool to understand and possibly redirect assessment practices in more consistent, valid, fair, and authentic ways with specific social aims or cultural appropriateness and competence. The purpose of this research is not to develop a theory. Still, a conceptual framework that defines the purpose of using means and interpretation of assessments and using agricultural education in Fiji as a case study to illustrate its implicit assumptions and the importance of considerations necessary to understand the practices.

The higher education sector knows the need to provide a place or space for different learners to complete their studies (Montenegro & Jankowski, 2017). They argue that a culturally responsive assessment approach is required to improve learner knowledge and skill. The argument is still valid today in terms of assessing learning. The field has mainly been quiet when it comes to equity. It privileges and validates specific methods and evidence of learning over others. Thus, assessments without considering equity may hinder the validation of multiple means of demonstration or reinforce the false notion that they do not belong to higher education.

There is a difference between assessing for a specific outcome for all learners in the same way and conducting assessments appropriately and inclusively. Inappropriate assessment methods and poor feedback mechanisms may not benefit learners. A culturally responsive approach is a priority for holistic assessments and improved learning (Montenegro & Jankowski, 2017). Appropriate learning tools encourage deep learning by honoring a learner's prior knowledge and experience.

Thus, the unlearning that most educators/facilitators need to do today is the assumption that - learners may take multiple paths to and through learning; however, they must demonstrate their knowledge and skills in the same way. There is a need to weave culture and learner experiences into a working framework. The framework will allow learning in multiple dimensions, including the individual, social and cultural contexts. It must be developed considering how people learn within and across environments. It must be noted that learners do not act with equal competence in all settings, even if the content is the same (Montenegro & Jankowski, 2017).

Most higher education institutions in Fiji involve multiple methods of assessments; however, they are determined by the educators/facilitators. None to very few learners are actively engaged as partners in learning. The Biggs constructive alignment model has been employed in constructing assessment tools for training technical vocational subjects; however, there is still a gap around this model of assessments in Fiji.

The main theoretical underpinning of the outcomes-based curriculum is the coherence between assessment, teaching strategies and intended outcomes in an educational programme (Biggs, n.d.). The following diagram shows a basic model of an aligned curriculum at the University College in Dublin.

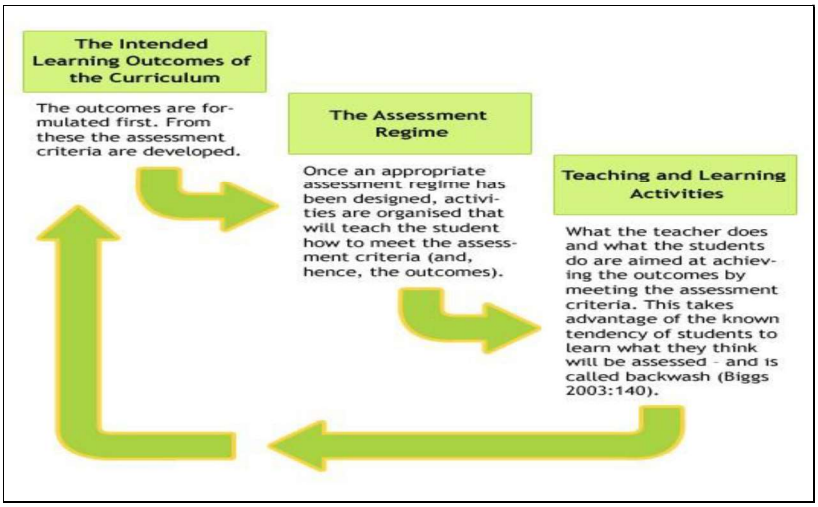


Figure 18: A basic Model of an aligned curriculum. Source: Biggs, (n.d.)

The Biggs model suggests that teaching and learning activities are designed to enable learners to demonstrate achievement described by outcomes. It is done by focusing on verbs within the outcome that express the expected results. Appropriateness of the verbs is derived from Bloom's and Biggs's taxonomy. Benjamin Bloom created Bloom's Taxonomy in 1956 in Figure 18, revised in 2001 by Lorin Anderson and David Krathwohl, now known as the Revised Bloom's Taxonomy. There are six Revised Bloom's Taxonomy levels, starting with remembering as level 1 and creating as level six (6).

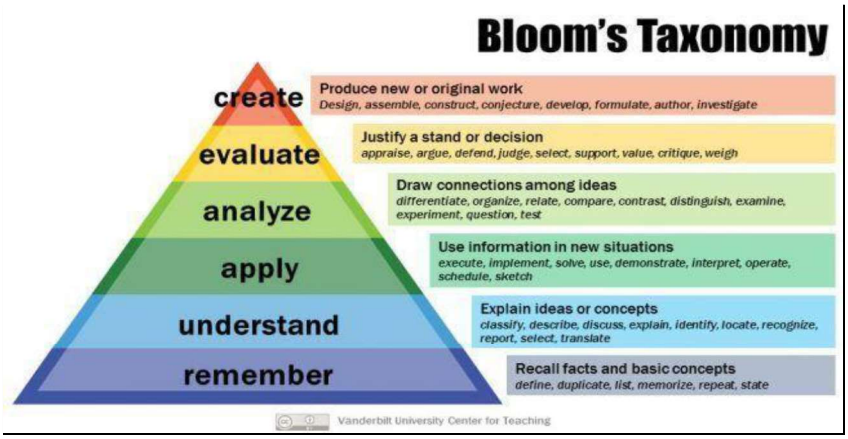


Figure 19: A diagrammatic representation of the Revised Blooms Taxonomy. Source: Bloom's Taxonomy, (n.d.)

There are two aspects of constructive alignment: the constructive part, where the Learner constructs meaning through relevant learning activities and the alignment part, which refers to what the Educator/Facilitator does to support the learning activities (Biggs, n.d.).

According to Biggs, (n.d.) meaning is not imparted by the Educator/Facilitator to the Learner but created by the Learner for themselves. Teaching is simply a catalyst for learning. Biggs, (n.d.) argues that Learners will learn for assessments and not what is in the curriculum. Thus, assessment tasks must capture the intended learning outcomes, as shown in Figure 19.

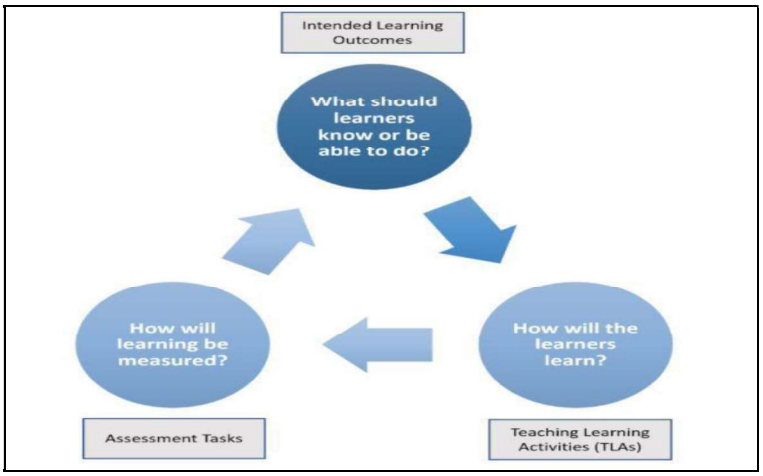


Figure 20: John Biggs Constructive Alignment Model. Source: The University of Queensland, (n.d.)

Biggs, (1999) calls this model the motherhood model. He says that teaching should resemble or replicate how mothers teach their children to learn competencies, such as tying shoelaces.

Thus, Educators/facilitators should focus on outcomes and help learners achieve them to a desirable standard.

Teaching and assessing declarative knowledge are inauthentic. For example, let us consider a learner taking up a unit in applied statistics. On several occasions, the Educator/Facilitator would teach topics on mathematical equations, calculations, and analytical equations and assess how well the learners understood these topics. However, the learner is not there to learn pure statistics but to make better decisions using knowledge and skills gained in statistics at the workplace. Thus, the unit on applied statistics must be contextual to the area in which it is being taught, such as calculation of area, number of plants needed to plant in a given area, calculating the cost for ploughing or harrowing a specific area, etc. it should also equip the learner with calculating the effects of overusing or underusing fertilizers, or manure, or the yield from a type of variety or breed vs the old one, etc.

Biggs, (1999) argues that there is a general model for teaching and assessing any unit. The key is to define what the learners should do with the content: solve problems, construct a hypothesis, apply, design, explain, etc. Assessment is then conducted to determine how well the learners can perform tasks in appropriate contexts. Thus, summative assessment is about judging the whole performance against predetermined rubrics.

It is often noted in higher education that learning is departmentalized. The educators/facilitators teach how and what they want to do in the name of academic freedom (Biggs, n.d.). Thus, graduates end up with a qualification with a set of units, modules, or standards that they are unable to link as a web of knowledge and skills that work together. For example, a learner applying the knowledge of soil science from one course, or unit, to horticulture in another unit or course. Another example is that of understanding agribusiness from one unit in animal production and applying it in another course in animal health. Thus, according to Biggs, (1999), it is helpful to consider teaching and learning as a multi-layered ecosystem or maintaining an institutional culture.

Learning outcomes must be measurable, so they should specify knowledge or skills that the learner can demonstrate. However, the Biggs model is limited to cognitive and psychomotor domains. The affective domain is not measured or considered for assessments.

As per Kember et al., (2020) the 3P model (see Figure 20) shows that a teaching and learning environment influences learning approaches, impacting the attainment of graduate attributes. The 3P learning and teaching model developed by Biggs in 1987 underpins approaches to learning. The 3Ps are presaged, process and product. Presence or perception variables characterize a learner, such as gender, age, and initial knowledge (Kember et al., 2020). Process refers to the approach to learning by the learner. Product relates to the results of the learning outcome.

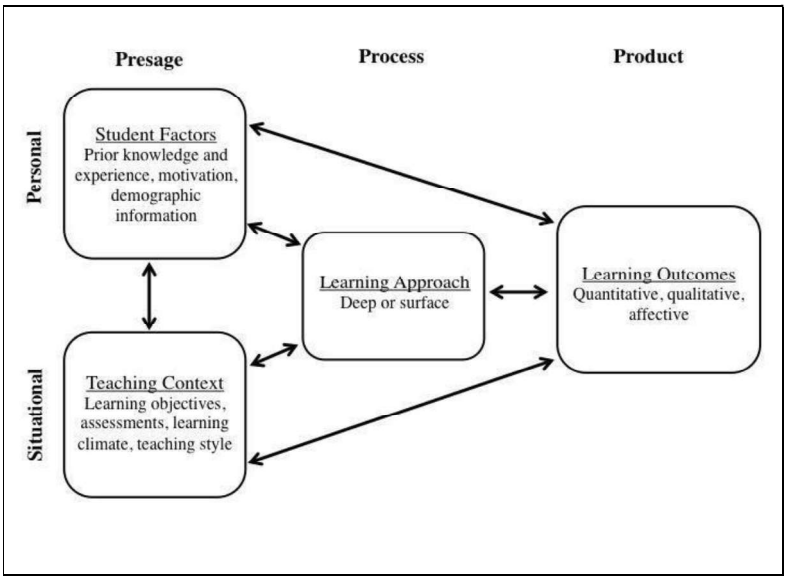


Figure 21: The 3P Model of Teaching and Learning. Source: Remenick, (2015).

The 3P model supports a well-designed teaching and learning environment that includes educator and learner-learner interaction, and a lively curriculum plays a crucial role in deep learning approaches (Kember et al., 2020).

The curriculum indicators include active learning, motivation, clear goals and standards, appropriate assessments, and overall satisfaction. These are essential for nurturing cognitive attributes. Higher education institutions (HEIs) have a range of cocurricular activities that direct pathways and critical mechanisms to develop social attributes. However, most HEIs in Fiji do not consider co-curricular activities part of the formal training such as student association or institutional organized religious, sports, social, and others.

Approaches to learning are an essential intermediate step in the 3P model. Learning cannot be directly observed in others (Massey, 2015). Thus, assessments are a crucial part of the teaching process. Academic assessments, essays, exams, etc., attempt to measure how an individual has learned but cannot measure the actual learning process. Learning involves the whole personality, including sense, feelings, intuition, beliefs, values and will. Learning is a process, and it is ongoing. Thus, the PACT cycle is used to represent a generic learning cycle. The PACT learning cycle stages are:

- *Acquire new knowledge (theory) or ability (skill).*
- *Apply new knowledge or skill in some way.*
- *Consider the results of the practice evaluated and assessed.*
- *Transforming the original knowledge or ability is modified accordingly*.

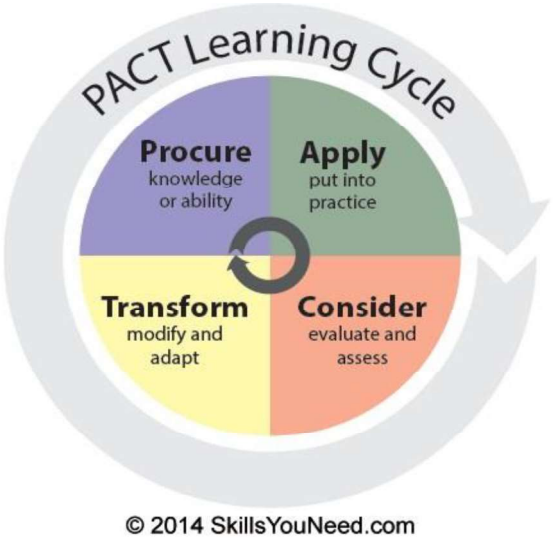


Figure 22: PACT Learning Cycle. Source: Mathew, (2014)

Learning changes how we act and think about ourselves and others. It changes how we see the world permanently or temporarily depending on our perceptions and relevance of the new knowledge, skill, or attribute.

2.13 What is the purpose of frameworks

A framework is a foundation upon which everything is built (Shala, 2018). She explains that a framework is not a copy-paste but a custom-designed essential for supporting an educational structure. The aim is to connect with the stakeholders and move in a unified direction. It is a concrete visual for direction, guidance, and connectedness. There are three different types of educational frameworks, which are discussed below. The study of these frameworks and the previous models determined the mechanics and basis of the anticipated assessment framework developed in the discussion chapter of this thesis.

A theoretical framework comprises theories in the field you plan to study or develop (Kivunja, 2018). It is a structure created from concepts and ideas generated from published knowledge to help make meaning of the new knowledge using the collated data. A theoretical framework is a subset of the larger conceptual framework. According to Kivuja, (2018) a conceptual framework is the total, logical orientation, and association of everything that forms the underlying thinking, structures, plans, practices, and implementation of a project/study. An operational framework includes all variables and individual ideas at work, and a logical framework of log frame gives an overview of the objectives, activities, and resources of a project/study as shown in Figure 23.

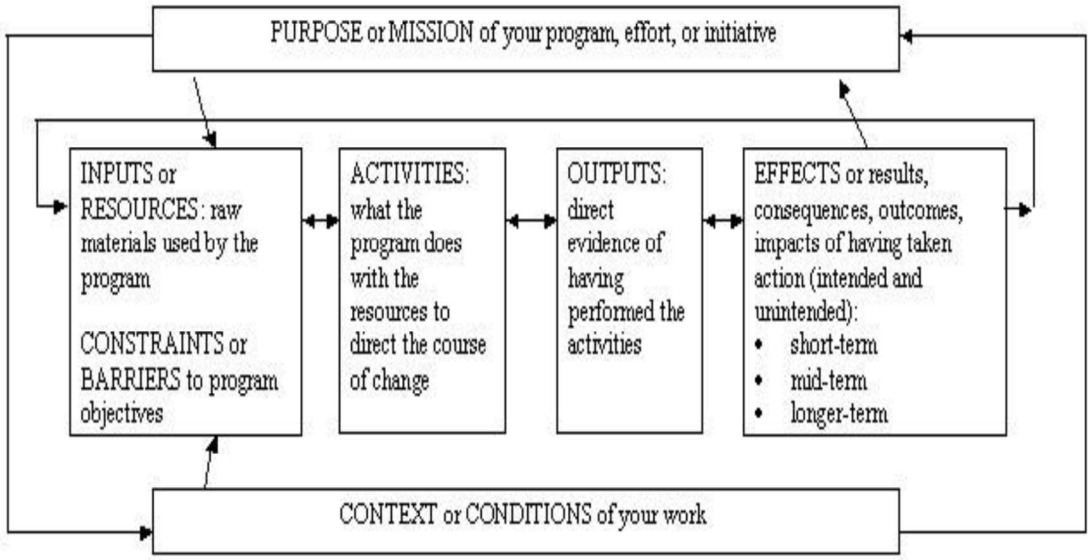


Figure 23: A general pathway for the development of frameworks (Source: Milstein & Tom, (1994)

Teaching and learning frameworks are research-informed models for course design that help Educators/facilitators align learning goals with classroom activities, create motivating and inclusive environments and integrate assessment into learning (Yale, 2021).

This research noted that the frameworks mentioned by most universities and higher education institutions were around teaching models and frameworks but were limited to assessment frameworks. Most frameworks did not choose to follow the model of change format. However, Massey University in New Zealand had an exciting assessment strategy, principles and guidelines shown in Table 1 summary below:

Table 2: Summary of Massey University Policy Guide

Component		Particulars	
Purpose	*The University's Assessment Strategy, Principles and Guidelines provide a three tiered approach to assessment policy and procedures comprising an assessment strategy applied at the University Level, principles of assessment that relate to qualifications and specializations, and question-based guidelines that can be used by lecturers and paper coordinators for self- and peer-review of their assessment design.*		
Introduction	*Assessment is an integral part of a coherent educational experience and forms the overall quality of teaching and learning. It has two purposes:*		
	• *assessment of learning (primarily associated with the summative assessment)* • *assessment for learning (primarily associated with the formative assessment)*		
Guidelines	University Strategy	Activity	The Principles of Assessment Design
	Ensure that the assessment design is: • *Valid* • *Clear* • *Measurable* • *Support learning.*	*Identification of the following in coherence to assessments:* • *graduate profiles* • *Learning Goals* • *learning outcomes* • *facilities*	*Ensure assessments are fair, valid, consistent, and beneficial to learning.* *Ensure learners are provided with clarity and purpose.*

	The assessment tasks must be diverse and varied.	*Different approaches and types of assessment depend on resources.* *Use digital media where possible.*	*Using a range of evidence from multiple sources enables more accuracy.*
	Manageable staff and learner workloads.	*Sufficient assessment encourages deep learning rather than superficial learning.* *Balanced assessments avoid shallow and rote learning.*	*Realistic timeframes for conducting and marking assessments and feedback.*
	Learners are supported to succeed in assessments.	*Learners perform their best when sufficient information about the purpose and outcomes is provided.*	*Implement continuous assessment with clear, manageable timelines.*
	Maintain the integrity of the assessment process. The assessments should be valid, reliable, and effective.	*Appropriate academic standards should be used, including activities that align with effective practices.*	*The assessment practices resulting from assessment activities should be evaluated for validity, reliability, and utility.*

However, it is noted that assessments at Massey are educator/facilitator centered. The expert is responsible for developing, implementing, and ensuring that the assessments are reliable, valid and feedback is provided to learners. It is the role of the educator/facilitator to ensure that the Learners are supported to succeed. The framework does not mention that the learner must be responsible for their learning, and they can decide how they wish to provide evidence of their learning. The framework at least does not explicitly show learners participation in assessment.

2.14 Why a new culturally appropriate and competent assessment approach

A culturally appropriate assessment framework is required to ensure that all people are afforded every opportunity to succeed and achieve in educational environments (Ferguson, 2008). Ferguson (2008) says that the fundamental concepts of a Māori framework for eLearning and e-teaching included Manaakitanga (caring), the Taha Wairua (spiritual well-being), and the

need to establish and maintain online pastoral care of all learners. However, a culturally appropriate framework was not mentioned.

A new culturally appropriate and sensitive assessment model and framework was developed to include all the dimensions, principles and methods of assessment. The learner must always be the center of learning (learner-centered), it should include the educator (subject-centered) as the facilitator of learning, and finally, designed to encourage problem-solving, critical thinking (problem-centered) and creativity within the cultural context of the learner.

The new culturally appropriate and sensitive assessment model and framework provides an interactive educational experience to meet learners' needs, interests, and abilities (Chauhan, 2023). It allows for meaningful learning and empowers the learners to solve real-world problems through critical thinking and soft skills. It allows them an educational journey built on their experience and background. It gives them the autonomy to construct, reconstruct, or deconstruct their learning.

The new culturally appropriate and sensitive assessment model and framework will recognize individual learner needs and simultaneously empower learners to work in teams and build soft skills for inclusiveness, diversity, and societal or communal needs. It will encourage concepts such as global citizenship and collaborative decision-making. This culturally appropriate and sensitive assessment model and framework will encourage inclusiveness and equity for all.

Man-made disasters such as war, and natural calamities such as climate change and sea level rise are causing displacements of human beings from their original place to another space contributes to internal and external refugee or refugee-like status. The culturally appropriate model must also consider the needs of this new movement for people. Not only does the educator have to consider the background of learners but also consider the mental effect that the learner is going through because of the change. Fransen (2018) found a lack of data on refugees but noted that access to education was limited. This was due to full classes in existing schools and the need to work for money to sustain families. Sometimes the separation of families leaves them scared individuals. With little to no counselling services, the individuals would find difficulty in returning to normal lives. However, according to United Nations High Commissioner for Refugees (UNHCR, 2014), the access to higher education has risen from one

percent (1%) in 2029 to seven percent (7%) today. It says that an increase to fifteen (15%) by 2030 requires more commitment, coordination, and range of engagement from host countries. Hence, this model will consider refugees and minority groups of people.

The culturally appropriate and sensitive assessment model and framework will encourage the learners to participate in their learning and take ownership actively. The learners will become part of the curriculum and assessment development and not merely be passive receivers of information. Keeping in mind that one size does not fit all, the culturally appropriate and sensitive assessment model and framework will be designed to suit the multiple variety of backgrounds that the learners come from. The culturally appropriate and sensitive assessment model and framework will also consider the learners' prior knowledge, learning styles or methodologies, and space for personal experience. It will not make any learner feel that their way of doing things is not correct or valuable or worthless.

A culturally appropriate assessment model and framework will encourage cooperation, inclusiveness, open communication, and shared decision-making. It will build a positive relationship between educators and learners. A supportive environment makes the learners feel safe, appreciative, and empowered (Chauhan, 2023). It will build a sense of belonging and, thus, motivate one to learn and create new knowledge or positive behavioral change.

2.15 Chapter summary

The schools in Fiji were established on western principles, values, and education. The history of education in Fiji is discussed in detail later in this chapter. To date, educators in schools face the difficult task of mediating the interface between the different cultural systems of meanings and values (Thaman, 1993). This chapter reviewed the critical literature relevant to the thesis on the importance of including cultural values and principles in an assessment and developing a framework to provide a unified way forward.

Pacific educators and trainers in both schools and HEIs need to acknowledge the differences between cultural perspectives. They need to understand and realize the change in learner's behavior as they move from home to classroom cultures. As emphasized by Thaman, (2013) the importance of educator training for higher education institutions to focus on cultural

competence as an essential attribute for graduate educators/trainers. Cultural competency is the awareness and sensitivity to cultural differences, including the ability to support, intervene or bring a change in an individual appropriately (Stein, 2016). Identity is not stagnant. It is discursive and constructed through individuals' social and cultural contexts (Nortvedt, 2020). Therefore, culturally competent assessments would mean more than simply adjusting test items (Skiba et al., 2002). It represents a comprehensive process that uses assessment results to identify and remedy educational conditions that disadvantage learners.

The higher education curriculum must also reflect the purpose or types of curricula discussed above for various reasons. Fiji has been through colonization, coups, political upheavals, natural calamities, and massive migration. Hence, the curriculum developers must be considerate and sensitive when developing curriculum in Fiji because it is made up of multi cultures, refugees and going through a recovery process. The government is trying to work towards uniting the two major races in Fiji. The teaching and learning methodologies and activities must be learner-friendly and culturally appropriate. The content must reflect some of the government's efforts in the unity process and the assessments should be seen as a learning process and not the cause for more racial divide. As seen in the literature above, examinations favor the Indo-Fijian learners than the iTaukei because of the way they learn and do things. ITaukei learners are more hands on and observatory learners, compared to Indo-Fijian learners who are more route learners hence do better in examinations. Thus, the assessment must be designed to promote learning in all learners and not be biased towards one race or religion.

Educators must also be prepared better for the changing world. They must not only be aware of the diversity and backgrounds of the learners in their classroom but also understand that they may be going through mental stress due to displacement or other major issues such as harassment, molestation, or abuse. Learners are digital literate, and they come with lots of information. Some are even future or career ready and they know exactly what they need to do. Educators' role has shifted over the years from the house of knowledge to a facilitator and they should be able to use the diverse culture's potential to develop teaching and learning methodologies to initiate discussions on sensitive and challenging issues. Educators must also be prepared and trained to handle complex and sensitive classroom issues.

The higher education curriculum must also be learner-centered, where the learner is actively involved in its development. Overall, curriculum plays a vital role in shaping what Learners learn and how they acquire knowledge, skills, and attitudes to prepare them for future education, career, and life. This study looks at learner involvement in Agricultural Training Institutions in Fiji. The next chapter provides an overview of the methodology.

CHAPTER THREE - METHODOLOGY

When Indigenous peoples become the researchers and not merely the researched, the research activity is transformed. Questions are framed differently, priorities are ranked differently, problems are defined differently, and people participate on different terms (Smith, 1999).

3.0 Chapter introduction

3.1 Research methodology and sampling

3.1.1 Research Methodology

This research was conducted within two research frameworks. The first framework, known as Vanua framework, is a mature framework that has been used widely in the Pacific. The second framework is a new framework that the author calls the Hindu thought philosophy research framework is a new introduction and used for the first time in Fiji. This study had also intended to use the Te Kotahitanga Observation Tool to measure the success of the assessment framework in the classroom, however, due to covid-19, this part of the study could not be conducted. The Te Kotahitanga Observation Tool is a matured and widely used framework in New Zealand. This chapter elaborates on the researcher's methods to collect data from various sources.

This research employed three different research frameworks. The Vanua Research Framework guided the Talanoa sessions in the study. The second and primary framework is based on the Hindu thought framework. The Hindu research framework was used to guide the collection, and collation of the information. Secondly, it was used again to develop the culturally appropriate assessment model and framework. This Hindu thought framework is unique to the author, reminding the generations of indentured labourers of their humble beginnings and maybe a forgotten past. The Hindu thought as a research framework would be the first to be used in Fiji as a research methodology. This framework is discussed in detail later in the chapter. The second framework is the Te Kotahitanga Observation Tool, which employs Māori values and cultural research methods was used in respect to the Te Whare Wānanga o Awanuiārangi and the only culturally appropriate research framework available for use for measuring learner success in the classroom.

3.1.2 Sampling

1. Institution sampling

The research was conducted on three (3) out of five (5) Agricultural Training Institutions (ATI). This makes up sixty percent (60%) of the total agricultural education providers in Fiji. The programme documents and learners were used as case studies from the three (3) sampled ATIs. The author selected the institutions as follows in Table 2:

Table 3: Sampling of Institutions for this study

Type of Institution	Number of Institutions chosen	Percentage Representation
Large	One (1) out of one (1)	100%
Medium	One (1) out of Two (2)	50%
Small	One (1) out of Two (2)	50%

2. Learner sampling (For questionnaires)

All the learners in year one (1) of their studies were given questionnaires to fill in the medium and small ATIs. The total number of learners in the four (4) small-medium ATIs made up sixty percent of the total questionnaires issued (60 questionnaires). The other forty percent was given to year one and two Diploma learners in the university. However, only fifty percent of questionnaires were considered (20) because the other twenty (20) were returned with incomplete answers.

Hence, from a total of hundred questionnaires (100) questionnaires issued, a total of eighty (80) were used for analysis. All learners present on the day of my visit were issued a questionnaire as follows:

1. ATI 1 – 5
2. ATI 2
   Campus 1 – 18
   Campus 2 – 21
   Campus 3 – 16

3. Sampling of educators and stakeholders

This study conducted three (3) agricultural educators focus group discussions in the 3 sampled ATIs (12 participants), three (3) individual educator interviews from the three ATIs (3 participants), and four informal class observations (4 participants). Two special focus group discussions were conducted with people (8 participants) from two Ramayan Mandali that I attended for religious functions. Three stakeholders were also interviewed who were suggested by the two Ramayan Mandalis' as experts in the area of religious education (3 participants).

4. Curriculum document sampling

The following are the findings of the sampled curriculum documents collected from three ATIs. There are two types of qualifications in the study:

1. National Qualifications – One certificate at level 3
2. Provider Qualifications – One certificate at level 4 and one Diploma at level 5

National Qualifications refer to the qualifications registered on the Fiji Qualifications Framework (FQF). Provider Qualifications refer to qualifications registered on the FQF developed and accredited by an accrediting agency (Appendix 4).

3.1.3 Steps of data collection

Firstly, this research looked at theoretical frameworks from around the world for guiding assessments. Secondly, the researcher used several methods to gather information for developing the new culturally appropriate and sensitive assessment framework to conduct assessments under the FQF levels 1-6 in Fiji in agriculture education. Finally, the study developed or created a specific framework for conducting assessments for higher education, especially TVET in Fiji. The new framework was designed to be inclusive, learner centered, culturally appropriate and sensitive. The framework was also unpacked into examples of assessments for a case study in Fiji's agricultural education for a Fijian context. The detailed new framework is presented in the discussion and conclusion chapter of this study.

3.2 Research methods

The author used multiple research methods to collect data in this thesis. According to Turner et al., (2017) all methods are flawed if used individually. However, a combination of methods will enable a better collection of data. The main methods of data collection included:

1. Questionnaire
2. Focus group discussions
3. Interviews
4. Observation

The core elements of any research design include theoretical and methodological purposes (Turner et al., 2017). The study argues that the theoretical purpose must be considered to develop a mixed-method research design framework. According to Turner et al., (2017) scholars pursuing mixed-methods research must carefully consider the methods' purposes. The selection of methods depends on the researcher's objectives, as Turner et al., (2017) states:

1. *Maximize generalizability.*
2. *Precision in control and measurement of variables.*
3. *The authenticity of context.*

Achievement of the objectives mentioned above enables a researcher to assert different types of validity. This includes construct, content, face, and criterion validity (Middleton, 2023). This research was conducted using both qualitative and quantitative methods. The research strategies used to collect data from the research questions are listed in Table 3.

Table 4: Data collection strategy and method design

Research strategy	Method purpose within mixed methods
Archival records	Measure alignment of different course learning outcomes, content, and assessments. It is an effective strategy for generalizability and enhancing measurements of variables and behaviors.
Interviews	The author interviewed educators and stakeholders through focus groups or individual presentations. Interviews are a good strategy for capturing behaviors that have taken place in an authentic context.

Survey	An interview questionnaire was used to collect learner responses. Surveys are effective and precise in the control and measurement of variables. It is also good to capture behaviors in an authentic context. Questionnaires were used to collect data from learners because of their large numbers and to make it easier for learners to provide their feedback against written questions and selections. Some open-ended questions were also provided for them to provide their opinions and extended thoughts.

The research strategies mentioned above in Table 3 were used to collect and triangulate data for different research questions. Questionnaires were used to manage the data from learners because of the larger population size compared to stakeholders. It was easier to manage and collect data as they were more structured. Learners agreed readily to answer the questionnaire rather than participate in discussions. Interviews and focus group discussions were more productive and manageable with stakeholders as they were happier to share their experiences than to write. Most of the stakeholders were elderly people. It was less costly but more effective to organize focus group discussions and interviews with a smaller population.

The focus group discussions and interviews were conducted using the Talanoa model. Talanoa sessions take time, as you cannot rush through the stages, and they have monetary implications. The Talanoa model has a set of steps that must be followed. Nabobo-Baba (2008) stated that there are seven stages in a Talanoa session outlined in Table 4.

Table 5: Seven stages of Talanoa session outline (Nabobo-Baba, 2008)

Stage	Step	Description
1	Na Navununavuci (Conception)	This stage involves theorizing and conceptualizing.
2	Na Vakavavarau (Preparation and planning)	The ceremonies and activities related to the Vanua need physical, methodological, and spiritual preparation.
3	Na I Curucuru/Na I Sevusevu (Entry)	Presentation of Kava (Piper methysticum) to formally request entry into the Vanua.
4	Na Talanoa/veitalanoa (Multilogue/dialogue/monologue/story collection)	Talanoa takes place most appropriately.
5	Na I Tukutuku (Reporting/analysis/writing)	The values and protocols of knowledge must guide reporting or writing.

6	Na Vina Vinaka (Gifting/thank you)	Gifting can depend on both the researcher's and the researcher's relationship.
7	I Tatau (Departure)	It is a temporary protocol. Relationships are a lifetime engagement.

3.3 Talanoa method – (The Vanua Framework)

The Talanoa method of collecting data under the Vanua research framework emphasizes:

1. The participants in the research and data collection. (Nabobo-Baba, 2008)
2. Who is the study being conducted on (Nabobo-Baba, 2008).
3. Engagement of appropriate methods to collect information and data. (Nabobo-Baba, 2008).
4. The importance of acknowledging data owners (Nabobo-Baba, 2008).

Vanua was the first and most important of the four pieces of knowledge (Land and the people/Vanua, God/lotu, custom/i Tovo vakavanua, relations/Veiwakani). Vanua was identified in literature as the main foundation of knowledge. The essential component of Vanua is the people. Vanua means land as well as place (Nabobo-Baba, 2008). Place in this context means cultural expectations, social meaning, worldview, and personal experience (Mohammad et al., 2013). Nabobo-Baba (2008) also suggests that the third main knowledge category is customs. Kinship relationships and life principles determine appropriate customs and behaviors. She elaborates on appropriate behavior since the spiritual and material worlds are interconnected. Ancestors and God govern all-important behaviors and values, such as respect for people and resources. Proper behavior was associated with belonging and respect for Vanua.

3.2.1 The Talanoa sessions (Focus group discussions)

Two (2) Talanoa sessions were conducted with the trainers of the higher education institutions. The first Talanoa session was held with experts in Hinduism. This Talanoa session was required to collect and verify the contents of the new Hindu Thought Philosophy research framework. Once the framework content was verified, the researcher then used it with the other focus group discussions and for compiling this thesis.

The second Talanoa session was held before the development of the new assessment framework. The primary focus of the Talanoa sessions was to encourage interaction between, and to blend local and global ways of teaching and learning. The second focus group discussion was held with Trainers in agriculture to collect the information for the content and parts of the new assessment framework. Once the data was collected, it was used to develop the new assessment framework that is found in the discussion in chapter seven (7).

The researcher needed to weave in and out of the Talanoa sessions with articulated discussion questions on ideas, issues and concerns. But the idea was not for the researcher to control the conversation, as elaborated by Vaioleti (2006) below:

> *Researchers are encouraged to be cautious, respectful and to see, not just look; to hear, not just listen, and to observe; to know the culture and context they are engaged in and then behave accordingly. Requirements include not dominating. A researcher's first contact with participants should be face-to-face, ensuring appropriate communication is always used. A researcher should also ensure that their dress code was always appropriate, and that body language was relevant, including how to sit, stand or look* (Vaioleti, 2006).

The researcher should not make concluding comments or remarks during the conversation. The researcher was to be seen as a facilitator rather than the lead for the discussions. The researcher's questions were intended to keep track of the conversation; otherwise, the researcher may not get to the point. The session was limited and bound by time, considering that the participants were mainly academics and were busy.

Using Talanoa as a research tool to conduct this study in higher education institutions was to develop an environment of cultural sensitivity and allow for freedom of speech. At the same time, it reduces the stress of writing by the participants especially when they are busy and may procrastinate with the other urgent work needing attention. It helped the author to set the stage with guided questions and introduction in a culturally appropriate and friendly environment, so it does not surprise the trainers when the researcher introduces the concept of developing culturally appropriate and sensitive assessments from a general assessment framework.

> *Talanoa removes the distance between researcher and participant and provides research participants with a human face they can relate to. This was an ideal research method because the relationship was the foundation for most Pacific activities (*Vaioleti, 2006). *While it was similar in approach to narrative research, Talanoa differed in that participants in a Talanoa group provided a challenge or legitimation to one another's stories and shared information. Because Talanoa was flexible, it provides opportunities to probe, challenge, clarify and re-align* (Vaioleti, 2016).

The researcher used the Talanoa method to create a relationship of trust and accountability.

> *The interchange embedded in Talanoa raised the expectations that researchers and participants have of each other, promoting mutual accountability, which adds to the trustworthiness and quality of the research. The effect of reciprocity was such that when people give Koloa (in this case, time and knowledge), they expected it to be respected, honoured, and used well. Developments were followed with interest. Because of the relationship that has been developed, quality was added to the research. The researcher did not want to disappoint participants with whom they have developed a relationship (*Vaioleti, 2016).

Smaller focus groups were formed during the Talanoa session. This was done to accommodate the voices of participants who could not contribute to a larger circle for many reasons, including shyness, hierarchy, uncomfortable situations, fear, or other reasons. Hence, a smaller group of 3 people per group was formed to discuss the questions and contribute to the larger group discussions, as suggested by Vaioleti (2006) below:

> *In a research situation in a Pacific community, the participants behaved differently depending on the researcher's age, gender, cultural rank, or community standing. These variables may significantly affect results.*

3.4 The Hindu thought research framework

The Pacific Island scholars assert (Koya, 2017) that a decolonization of research is needed to cater to people's world views who see the world differently. Hence, the researcher used a new Hindu thought research framework alongside an established indigenous research framework. This is a new introduction to the Pacific by the researcher. The study also reveals the following:

> *Limited discourse on Pacific indigenous theories, Pacific research ethics, and Pacific data analysis methods has been generated. As a result, a gap in the research literature still prevents a holistic understanding of good research practice or pedagogy (*Koya, 2017).

Hindu education is deeply concerned with epistemology or the theory of knowledge (Banks & Banks, 1997). The ways of knowing were known as Pramana in Hinduism (Banks & Banks, 1997). According to Dharanidharan, (2015) traditional research or studies have always focused on the highest principles of Dharma, Artha, Kama and Moksha. Starting with Vedas, recent literature on Sahitya Shastra (Science) has always emphasized Pramana (evidence-based) and Ukti-based approaches.

The four (4) principles mentioned above, is symbolized in the Hindu, Buddhist, and Jain through a swastika. The image in Figure 25 shows an image of a detailed swastika. If you note the development of a Swastika, starts with a simple cross that resembles Christianity. Swastik in Sanskrit means lucky or auspicious (Venkatraman, 2022). Swastika is used by Hindus on their doors and during poojas (prayers) to please lord Ganesha. The intersection in the midst of the four lines represents lord Ganesha and the four (4) lines forming the bracket on the two (2) sides of the swastika, represents Shubh" (शुभ) means auspicious, good, or fortunate, while "Labh" (लाभ) means gain, profit, or benefit, his two sons. The swastika turns in a clockwise direction, when compared with the Nazis symbol. The swastika is drawn using red coloured dye, paint or Kumkum. It may be drawn using white flour or turmeric during prayers (pooja).

Figure 24: Image of a Hindu Swastika. Source: iStock (n.d.)

The first four (4) branches of the swastika represent the four (4) Vedas – *Rig, Sama, Yajur*, and *Atharva* (Rudra Centre, 2024). The next four (4) limbs extending from the main trunk are the four (4) principles of life – *Dharma, Artha, Kama*, and *Moksha* (Rudra Centre, 2024). The tail ends of each extension represent four (4) stages of life – *Brahmacharya* (Life of a student), *Grihastha* (Householder), *Vanaprastha* (Retired), and *Sannyasa* (Life of renunciation) (Rudra Centre, 2024). The four (4) dots represent the four (4) directions – East, West, North, and South (Rudra Centre, 2024).

Hence, the swastika would ideally represent the Hindu thought model from which extends the Hindu thought philosophy research framework. According to Dharanidharan (2015) the methodology must satisfy the Anubhanda-Chatushtayam (pre-requisites). They include Vishaya (subject/topic), Adhikari (candidature), Sambandha (relationship between the candidate and the subject) and Prayojanam (purpose of study). This research used the following Hindu methods of research and worldviews to collect data.

As mentioned earlier, Tantrayukti means methodology in the Sanskrit language (Jayaraman, 2008). It was compiled in the 6th Century (Jayaraman, 2008). Tantrayukti is a compound of two words – Tantra and Yukti. Tantra means to discuss details, subjects, and concepts protectively. The following is a list of the oldest Tantrayukti of Arthaśāstra (Jayaraman, 2008):

> *Tnoti vpulanrthn tatwamntrasamwentaan!*
>
> *Trnntrch krute yasmatrh tantrmetyevidhiyate!!*
>
> *Yujayente sdonkalpayente sambdhayente parsparamartha:*
>
> *Samytraya prakrnike bhimte thn virudhwayadhatadidoshjhatmpasye anyeti Yukti* (Jayaraman, 2008).

During one of the focus group discussions with the Hindu stakeholders in this study, it was mentioned that religion was maintained in the most traditional way possible. The recital of Ramayana and faith was supported through the formation of Mandalis. The Mandalis were created in the absence of temples. They also argued that Hinduism was not a religion but was *Sanatan* (Way of Life). Sanatan was described as the beginning with no end. The term Hindus came from the term Indus (which is a river in India). During the Silk Road trade amongst Asia, the Sanatan was changed to Hindu, thus forming Hinduism. For this study, Hinduism will be used to reflect the original Sanatan Dharma.

The expert group also said that Hinduism or Sanatan Dharma is not a religion. They described Hinduism as the four Kartabhya or hierarchy of life. They are as follows:

- Dharma is the duty or responsibility towards your family, friends, workmates, neighbors, community, and nation, including Mother Earth's physical and living resources.
- Kaama/Karma – refers to the day-to-day activities to meet the needs and wants.
- Artha – it is the achievement of prosperity and security.
- Moksha – refers to self-actualization or self-satisfaction.

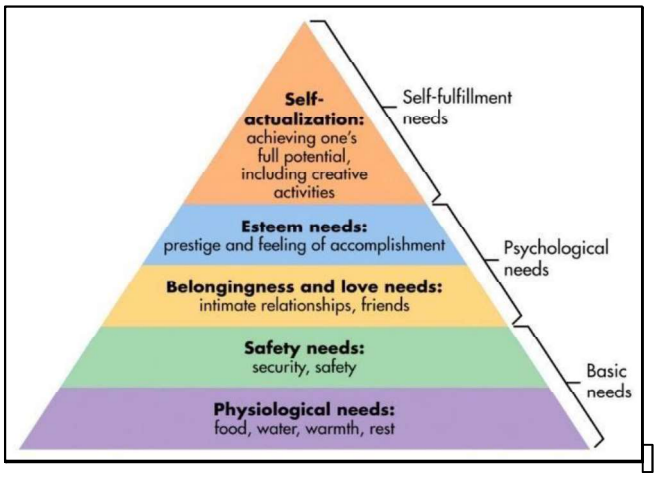


Figure 25: Maslow's Hierarchy. Source: Mcleod, (2024)

Maslow's hierarchy shown in figure 25 is a motivational theory describing human needs depicted triangularly. However, it does not consider dharma (spirituality) as a motivational need. But dharma (spirituality) forms the basis for most cultures in the world. Thus, any writing of literature using Hindu thought must meet the four Kartabhya or principles of Hinduism. It must meet needs, wants, safety, and spirituality and provide self-actualization or satisfaction. Ancient Indian literature was written with these things in mind.

The expert focus group also mentioned that writing or literature must be based on Pramana or evidence. However, Ukti is also essential. Ukti is the way that information or knowledge is transferred. The Ukti-based approach mainly uses case studies to define or describe a higher understanding of information or knowledge, such as those stories used in Vedas.

For example, the reference to the 27 wives of the moon explains the ecliptic movement through the skies. The 27 wives refer to the 27 days that the moon takes to complete a cycle. Each wife refers to the principal star during the occultation of the moon. One of the wives, Rohini, is the favorite wife of the moon, which refers to the longer time spent at this principal star during its occultation. Stories and case studies described complex and higher knowledge.

3.4.1 Methods of data collection under the Hindu Thought Philosophy Framework

Hence, to ensure the study remains within the principles and values of Hinduism, the researcher used the following diagrammatic representation as a lotus flower in bloom in figure 26 to represent the methods within the Hindu thought research framework. This representation is the author's perception of the written text. It is how I see the Hindu Philosophy framework, in the form of a lotus flower. The petals represent the methods used to collect the data around the Yukti or outcome of the research.

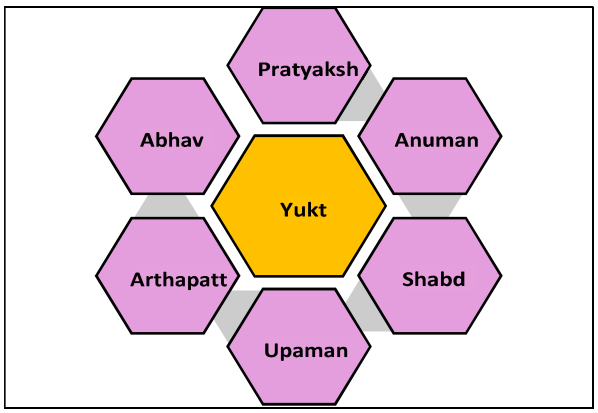


Figure 26: Representation of the methods within the Hindu thought research framework. Source: Author, (2021)

The new Hindu thought Philosophy research framework is represented as a lotus flower in bloom shows the six different methods of knowing or data collection forms the structure of the research framework defined by Hindu theologians and philosophers are as follows:

1) Pratyaksha, or sense of perception, refers to earning through the five senses – touch, sight, taste, sound, and smell.
2) Anumana, or inference - includes the five steps or syllogism:

a) The thesis will be established.

b) The reason for maintaining the theory.

c) An example of the reason

d) The application of the reason and example

e) The conclusion

3) Shabda, or authority. The study and analysis of the scripture.

4) Upamana, analogical reasoning - Involves comparing things with common characteristics.

5) Arthapatti, or hypothetical supposition.

6) Abhava, or negation - is an extension of Pratyaksha.

Yukti means removing blemishes like impropriety, contradiction, etcetera from the intended meaning to provide linkages to the other parts of the purposes. Hence, the data collection methods were used within the framework were Anumana, or inference, Shabda, or authority, Upamana, analogical reasoning, and Abhava, or negation to ensure this research was ethical, data was safe and used correctly, and the researched were cared for and respected within the principles of Hinduism.

3.4.2 Using the Hindu thought philosophy

To develop the assessment framework, the researcher used the following model of change under the Hindu Thought Research framework:

1. Described the intended use of the framework.
2. Outlined the vision and the mission.
3. Stated the objectives.
4. Described the appropriate scope or level of the framework.
5. Identified all components to include in the framework.
6. Used the components to draft a picture of the framework.
7. Checked the completeness of the framework.
8. Once the current components and elements are identified and incorporated into the framework, it was intended to be used. However, the researcher was only able to unpack the framework into an assessment plan. Further discussions on the limitations and future implications are discussed in chapter seven (7).

The use of the Hindu based research framework was inspired by other indigenous writers and of the growing number and existence of Indo-Fijians for more than a decade in the Pacific. These Indo-Fijians have an identity that is different than that of the Indians from India. The generation of Indo-Fijians coming from the Indentured system do not resemble in their ways of doing and seeing things to that of the Indians other than their looks. The new identity was created from the years of gap between India and the indentured labourers in Fiji, including the harsh environment and lack of resources to maintain the same identity as the ancestors.

It was interesting to read about all the emerging indigenous frameworks and the idea that there must be a way and guideline within which the forefathers and mothers of the Indo-Fijians in Fiji had written their literature. The author conducted secondary research on this methodology and conducted a Talanoa session with six experts in Indian literature who revealed ways in which research was conducted by the writers of the holy books and Sanskrit and Vedas (Komatineni & Prasad, 2012).

3.5 Ethics in Research

The Hindu thought research research framework bonded the researcher to research with the highest principles of honesty, confidentiality, and respect. The research was also conducted within the Fijian context using the Vanua framework to maintain care and appropriate behavior within the multiracial research community. A detailed ethics form was completed and signed under the Te Whare Wānanga o Awanuiārangi research ethics requirements.

> *The confidential and anonymous treatment of participants' data was considered the norm for research. Researchers must recognize the participants' entitlement to privacy and accord them with their rights to confidentiality and anonymity unless they or their guardians or responsible others specifically and singly waive that right. In such circumstances, it was in the researchers' interests to have such a waiver in writing. Conversely, researchers must also recognize participants' rights to be identified with any publication of their original works or other inputs if they wish. In some contexts, participants expected to be not identified* (Gardner, 2011).

The researcher also adhered to the ethical requirements of the Ministry of Education, Fiji. It was applied before the researcher began data collection and after the approval from the Te

Whare Wānanga o Awanuiārangi Ethics Committee. However, the researcher also used Western analysis tools to analyze data collected using the abovementioned methodologies.

3.6 Quantitative Analysis

This study also used quantitative data analysis. It used descriptive study designs. A descriptive study was used to measure the subjects once.

The intention was to establish an association(s) between variables with a sample population. This ensured a valid estimate of a generalized relationship between variables was obtained (Bryman, 1984). This method was used to measure the relationship between the current assessment method and the new culturally appropriate and culturally competent assessment methods.

Study population and sampling – the data for the quantitative study was obtained from the learners who were part of the study on the new assessment methods. The sampling depended on the number of learners in the sampled course when the experiment was conducted.

Data - was collected using questionnaires, evaluation forms, and the Te Kotahitanga Observation tool. The data variables include age, name of the course unit, year at the institution, semester, assessment methods, examination, teaching methods and materials, modality, learner and staff ethnicity, culture appropriateness, and language competency.

3.5.1 Questionnaire

A questionnaire was used as a standardized tool because each respondent was exposed to the same questions and the same system of coding responses. The aim was to ensure that differences in responses to questions can be interpreted as reflecting differences among respondents rather than differences in the processes that produced the answers. Standardized questionnaires are often used in educational planning to collect information about various aspects of school systems (Ross, 2005). The primary way of collecting this information was by asking people questions – either through oral interviews (face to face or telephone), self-administered questionnaires, or by using some combination of these two methods (Ross, 2005). Appendix One shows a breakdown of the questionnaire used for collecting data from the learners.

The questionnaire was designed with a cover letter after being approved by the Te Whare Wānanga o Awanuiārangi Ethics Committee (Appendix 6). The purpose of this letter was to explain the survey's object and encourage respondents to complete the questionnaire. The cover letter was the only instrument for overcoming any queries in a self-administered questionnaire. For this reason, the cover letter is essential and should do the following (Ross, 2005):

- Identify the organization conducting the study (for example, the Te Whare Wānanga o Awanuiārangi).
- Explain the purpose of the study.
- Assure the respondents that the information provided was being managed in a strictly confidential manner and that all respondents remained unidentified.
- Explain why it was important that the respondent complete the questionnaire.
- Provide the name and contact numbers of the supervisor and the principal Researcher. The following information is included in both the introduction to the questionnaire and the cover letter:
- Brief detail on the respondent's selection (for example, your name was randomly selected).
- Expression of appreciation for the respondent's help.
- Estimate of questionnaire completion time.
- Writing instructions for answering questions was essential to the questionnaire layout.

3.7 Qualitative data analysis

Qualitative data was critical in determining frequency, traits, or characteristics (Ross, 2005). It allowed the researcher to form parameters for observing larger data sets. The researcher used the qualitative data to get insight into the principles of culturally appropriate and culturally competent assessments to develop a framework for creating culturally appropriate assessments. The qualitative data was collected using the following:

- One-to-one interviews are mainly because of their personnel approach. It involved informal and unstructured conversations around open-ended questions.
- Focus groups were used during the Talanoa sessions with the trainers. The researcher moderated the ongoing discussion. The Talanoa sessions also included group work for

participants who were not able to contribute individually. Butcher papers were made available for those who wished to write.

- The interviews were transcribed and sent back for verification. The interview questions were passed by the supervisor.
- The researcher collected a record of the training materials to gather relevant information on the course aims and assessment. The data was being used to determine the current practices in assessments.

The qualitative data was analyzed using the following two processes:

- The deductive approach involves analyzing the qualitative data based on questions the researcher predetermines.
- The inductive approach involved analyzing the qualitative data that the researcher gathered from the methods that were not predetermined in questions but revealed or gathered during conversations or records.

The steps of qualitative data analyses:

- Arrange the data – transcribe the data collected. Convert into a text format.
- Organize all data – the data was arranged according to the predetermined structured questions.
- Set a code to the data collected – assigned codes to the data. Started to build a pattern for informed decisions.
- Validate the data for accuracy and reliability, and the participants return the transcript to amend or approve.
- Finally, the researcher analyzed the data was presented it in the discussion chapter. Qualitative data was used to provide the information required by the researcher to develop the new assessment framework.

The qualitative data collection method gave the researcher an in-depth analysis of the culturally appropriate principles for designing assessment tools. It also determined future research potentials. Although qualitative data collection was time-consuming, not easy to generalize and highly dependent on the researcher's skills, it gave helpful information on future research potential.

3.8 My journey

I had an exciting journey collecting data. I live in Nausori, about 10 miles from Suva City, the capital of Fiji. I had to travel out of the residence to collect the data. I started with Vivekananda Technical Centre (VTC), based in Nadi. Nadi is found in the Western part of Fiji. It takes 4 hours by car to reach VTC. Therefore, I went one day earlier and stayed at the Skylodge Hotel. The next day, I went to VTC by car to meet the Director, trainers, and learners. I made previous arrangements with the Director and the organization's trainers via email and phone calls.

I included the questionnaire for the learners to ensure the questions were appropriate for their cohort. I also sent a programme for the day with a welcome session, focus group discussion, and a visit to the learners on their farms. The learner visits were arranged over two days. During the welcome session, I talked about the purpose of my visit and what I intended to do. Then, I formally requested permission. I asked if they were happy to participate even though they had previously consented. Per the Hindu principles of care, charity, and honesty, I ensured that I provided refreshments, that the information shared would be confidential, and that names would not be mentioned. The participants were allowed to talk and share their experiences during the focus group discussion. I also placed the questions on significant butcher papers for their contributions. It was to cater for those participants who were reluctant to speak. The author set butcher papers on tables to allow people to write, and they were given two days.

Vivekananda Technical Centre [VTC] is an Agricultural Training Institution (ATI). It has a unique way of teaching where the learners are based on their farms, and the trainers visit the farms to train each farmer using a structured curriculum. Given below is a brief history of VTC.

VTC is managed by the Board of Management of Ramakrishna Mission, Fiji, a branch centre of the worldwide Organization – Ramakrishna Math and Ramakrishna Mission, with its Headquarters at Belur Math, West Bengal, India. The vocational courses started in 1981. VTC is an accredited provider that offers a certificate in horticulture at levels 2-4. It also provides technical assistance, such as vegetable seeds during and after natural disasters.

Initially, VTC offered carpentry, joinery, agriculture, and automotive engineering courses. Apart from the Ministry of Education's two-year vocational courses, the Centre also provided franchised FNU from the early nineties. Since 2013, it has offered Fiji National Qualification courses in cookery, automotive mechanics, electrical, cabinet making and joinery. Successful

trainees completing all requirements in these courses have now graduated with a Fiji National Qualification in November 2014. A provider qualification course in Advanced Office Technology was developed with its first intake of 2014 trainees to recognize the importance of and demand for industry relevant office technology skills.

The VTC is registered under the Higher Education Commission Fiji [HECF]. The VTC has successfully piloted the delivery of Cert IV programs in commercial cookery, automotive mechanics, automotive electricals, and electronics.

The VTC has been supporting the farmers after floods and cyclones with the distribution of seeds and extension services funded through grants from the European Union, Australian AID, etc. After TC Winston, about 14,000 packets of vegetable seeds were distributed to farmers, school learners, villagers, and the public to help alleviate possible food shortages.

With many other institutions competing to deliver the same programme in 2016, the Ramakrishna Mission discontinued the above programs and moved to the much-needed agriculture sector, focusing on training farmers. Currently, VTC is entirely focused on developing and delivering training programmes in agriculture to farmers on their farms.

After the focus group discussion on day one, we travelled with the trainers to the individual farms. We met with the learners, ensuring respect by dressing appropriately, taking some food, and listening to them. This was done considering the time they took from their daily schedule for me. Instead of getting the farmer to write, we filled out the questionnaire while they answered the questions, which was their choice when we gave them the option.

The next HEI that I visited was based in Nabua. The Nabua Campus is one of the Technical College of Fiji campuses in the capital city. It offers a certificate in agriculture at level 2. Since the campus was structured for classroom-based teaching, I did not have to travel far to get the learners. I had initially called and emailed for permission to study at the campus. So, I drove to the school on the day of the visit. I met with the Head of School to inform him of my presence and the time I would be there. He sent for the trainer, who then took me to the classroom. He introduced me to the class, and then I spoke with them. I told them who I was and why I was there. I asked them if they were happy to participate and willing to complete the questionnaire. When they agreed, I gave them the questionnaire. However, they requested that I give them one

day to fill out the form, to which I agreed; before I came, I gave them the lunch I had bought for each of them. I went back to collect the questionnaire the next day.

I drove down to Tailevu with my son to visit another of the TCF campuses offering the certificate in agriculture at level 2. This campus is about ninety kilometers (90km) from Suva but very close to Tailevu town. I repeated the exact process that I had used at the Nabua campus. The final campus that I visited was situated in Nausori. I drove down and repeated the process I had used at the previous two campuses.

As per the reporting by the International Labour Organization in 2012, many employers were not satisfied with the quality of training provided by the vocational centres and institutes (ILO, 2010-2012). Thus, in 2015, the Ministry of Education (MOE) decided to close all the vocational centres and open the Technical College of Fiji (TCF) in two (2) districts (Ministry of Education Fiji, 2016). The MOE converted two secondary schools and a primary school into TCFs. The schools included Nadi College, Labasa Arya College, and Nabua Sanatan Primary. The TCFs were established to ensure that 60% of the learners (MOE, 2016) completing secondary school would be enrolled at the TCF to provide the level 2 certificates in the different trade areas. It was intended to fulfil the 2010-2012 ILO report requirements to produce a competent workforce. TCF was designed to produce graduates for the anticipated tourism, construction, and mining boom. In 2016-17, 12 new TCF campuses were established in other parts of Fiji. A lot of investment went into the development of resources and capital development. However, in 2019, the MOE merged the TCF with the Fiji National University (FNU). TCF was offering the National Qualifications at level 2 in fifteen (15) different trade areas. The training and assessment were competency-based. At least one of the campuses in Sigatoka provided accommodation for learners. Three campuses offered the National Certificate in Agriculture (Level 2).

The next HEI that I visited was the Fiji National University. The campus for agriculture, fisheries and forestry is based in Koronivia. It is about 9 miles from the Suva City centre. I visited the HEI on three (3) different days. A formal letter was sent to the Dean for approval to conduct the study before the visit. It was approved. On the first day, I met with the office staff, who guided me to the coordinator for the Diploma in Agriculture. I requested to interview the staff, distribute questionnaires, and observe some classes. We agreed to do it on three different days. Firstly, I met with the learners since they were about to go for their examinations. I was able to get all the questionnaires back on the same day. The process was the same as that of the

Technical Colleges. On the second visit, I observed two (2) different classes from the Diploma cohort. During the final visit, I managed to talk to a few staff members only in their offices over a cup of coffee.

I was unable to conduct any focus group discussions at FNU. However, the Associate Dean of Teaching and Learning had permitted me to use the discussion room in the college library. The reason is the recent pandemic. We could not meet to conduct a focus group discussion that I intended to achieve using the Talanoa model.

Fiji National University was formed by merging five (5) different colleges. The Fiji College of Agriculture, Fisheries and Forestry (CAFF) was established in 2010 under the FNU banner. CAFF preceded the previous Fiji College of Agriculture (FCA), which was established in 1954.

Unfortunately, the focus group discussion with the trainers of the TCF campuses could not be done due to covid-19 restrictions and the FNU (Fiji National University) merger. However, all arrangements had been arranged, including their fare from and to their homes and catering.

The researcher conducted one face-to-face interview with one of the stakeholders. However, two stakeholders were consulted via email since the pandemic would not allow meetings to be undertaken physically. Questions were sent to the participants about their contributions. The stakeholders were formally requested for their consent to participate in the study.

3.9 The proposed observation method

The researcher also carried out an observation of two different classes at one of the ATIs. The purpose was to observe the pedagogy to transfer agricultural knowledge and skills. Kawulich, (2012) observation systematically describes a social setting's events, behaviors, and artefacts. It has been used to collect data for more than one hundred years. Observations have proved to be helpful in areas of sociology, psychology, education, and social sciences. Although the preferred way of observation is overt observation, covert observation is appropriate if participants are likely to change their actions or behavior upon the knowledge that they are being observed. In this research, the stance was that of a complete observer. The researcher was not part of the group under study, and the participants were unaware they were being observed. The observation was to be conducted within the Te Kotahitanga framework, which was the preferred method for the researcher. However, the researcher could not collect the learners' voices directly due to unforeseen circumstances. It had to be done through questionnaires

instead. Observations in this research were used as a complementary source of information. It may not provide generalizability due to validity issues. However, the data collected provided future research potential. The Te Kotahitanga framework provides an optimum basis for observations for educational purposes.

According to Ritchie, (2010) the principle of Kotahitanga is holistic development. Learning takes place through opportunities, relationships, spirituality, and indigenous knowledge. The Te Whakariki and Whakamana are culturally appropriate models that link culture, language, and learning. It helps empower learners to recognise their rights and dignity.

3.8.1 Te Kotahitanga Tool

This model was developed to improve the educational achievement of Māori Learners (Bishop et al., 2009). The following case study depicts this model in a story based on the birth of the Te Kotahitanga educational strategy (Bishop et al., 2009).

According to Bishop et al., (2009) the social, economic, and political disparities between the European colonizers' (Pākehā) and the Indigenous Māori people were a significant challenge in New Zealand. High unemployment, low-paying employment, incarceration, illness, and poverty in the Māori community were underrepresented in society's positive social and economic indicators. It was also reflected at all levels of the education system. Furthermore, Māori learner's academic achievement was lower than that of the learners of Pākehā descent. Comparatively, the rate of suspension was higher. There was an over-representation in special school programmes for behavioral issues and early exit from the education system with lower-level qualifications.

In addition, Bishop et al., (2009) explained that multicultural and bicultural educational reforms and policies were introduced to address the educational disparities. Alas, there has been little shift in these disparities since its introduction 40 years ago (Bishop et al., 2009).

Bishop et al., (2009) argued that the developed reforms and policies came from farsighted neo/colonial ideologies of a single dominant cultural perspective. The models failed to acknowledge the Māori ways of knowing (Bishop et al., 2009). The answers had to be found

closer to home. Bishop et al., (2009) suggested that the Māori cultural ways of knowing offered workable solutions to seemingly immutable problems.

Thus, a project was developed based on the Kaupapa Māori philosophies and Learner voices. It was designed to improve the educational achievements of Māori Learners. (Bishop et al., 2009). The project was called Te Kotahitanga – Improving the Educational Achievements of Māori Learners.

The learners' voices were essential in developing the Te Kotahitanga educational strategy. Bishop et al., (2009), identified that using learner experiences and understandings can directly improve the educational practice of educators/trainers. The worldview of the learners helps make educators' teaching more accessible and collaborative. The learners feel more empowered and motivated due to their participation in constructing their learning.

The Te Kotahitanga model constitutes the classroom where young people's sensemaking processes are incorporated and enhanced so that their stories provide the learning base from which they can branch out into new fields of knowledge through structured interactions. In the process, the educator interacts with learners in such a way (storying and re-storying) that new knowledge is co-created. Such a classroom generates different interaction patterns and educational outcomes. It is conducted within and through a pedagogy of relations. Thus, self-determining individuals interact with one another within non-dominating relations of interdependence (Bishop et al., 2009).

3.10 Chapter Summary

This chapter discusses the methods to collect data to develop a new framework for culturally appropriate and culturally competent assessments of agricultural education in Fiji. The next chapter analyzed the data and set the unpacked framework for relevance to the Fijian environment.

This study looked at not only the development of a culturally appropriate research framework from the Hindu thought point of view but also conducting the research within a Hindu thought philosophy. The author has used the Hindu thought as a basis for doing the both the frameworks because of her Hindu background and the need to create a research framework for the Indo-Fijians that they can associate with in future.

The final version of the framework is in English and uses all the familiar terms in education. The author reflects on the components from a Hindu thought, modern perception, and practical use of the two (2) frameworks. The presentation and understanding of the framework and model are based on the Hindu thought and philosophy.

The culturally appropriate assessment framework is developed to support a culturally appropriate and culturally sensitive curriculum. It is developed to open the assessments to more learner centered and aligned to the pedagogies. It is a shift away from the normal examination-oriented assessments to more learner sensitive and centered assessments. The framework is intended to support all cultures and their differences that make them who they are. It is developed to provide the space and place for the learners to learn and do things in the way they find most appropriate. Vishewar, (2024) recommends modifying the assessment system to include cultural activities, aesthetic sensitivity and creativity for a holistic evaluation and learner development.

The main aim of the thesis was to look at the culturally appropriate way of assessing learning in agricultural education in Fiji. It was to look at the definition of culturally appropriate and culturally competent assessments, current practices and implications on Learners, trainer competencies, values and effect on teaching and learning.

CHAPTER FOUR - RESULTS

Assessment is not something we do to learners; it is something we do with learners. Lord Krishna in Bhagwat Gita said that the more practice you do, the more perfection you will get.

4.0 Chapter introduction

This chapter shows the analysis of the data collected using the multiple research methods. The first part shows the analysis of the learner questionnaires, and the second part shows the analysis of the educator and programme documents.

4.1 Hypothesis

The first part of this chapter describes the learners' demographic background and responses to the data collected using questionnaires. The second part of this chapter shows the results and analysis of sample curriculum from the agricultural training institutes (ATIs) under the following hypothesis. The results support the intended assessment framework developed in the discussion chapter. The primary aim of the chapter is to gather learner and educator voices to support the development of an assessment framework that is culturally appropriate and culturally competent for agricultural education in Fiji. The data was collected using questionnaires against the following hypotheses.

Hypothesis 1:

Learners are involved in developing assessments in Fijian agricultural education at vocational levels.

Hypothesis 2:

Learners' cultural backgrounds and worldviews are included in the decision when designing the agricultural assessments in Fiji.

Hypothesis 3:

Learners are aware of culturally appropriate and culturally competent assessments.

Hypothesis 4

Agricultural educators capitalize on diversity as an asset to engage learners in the learning process.

Hypothesis 5

The agricultural curriculum is flexible, culturally inclusive of the learners' backgrounds, and encourages learning within diverse worldviews with sufficient teaching resources and assessment tools.

4.2 Research Questions

The following research questions were used to guide the data collection for three hypotheses mentioned above. The research questions were used to develop the questionnaire and the focus group discussions:

1. How was there an understanding of cultures through the integration of culturally responsive assessments?
2. How was diversity capitalized in the classroom as an asset to student engagement and do educators and demonstrators seek solutions to overcome cultural barriers that affect student learning?
3. What procedures exist to develop and apply strategies to ensure a relevant and rigorous culturally inclusive curriculum and was there a cross-cultural integration to develop an understanding of the different worldviews to make connections?
4. Did the trainers have sufficient teaching and learning resources, knowledge of the different methods of assessing agricultural education to involve learners in classroom and assessment decision-making?
5. What are Fiji's principles for culturally appropriate and culturally competent agricultural education assessments and how do agricultural trainers incorporate the differences in culture for consensus and harmony?

4.3 Demography of respondents

This section analyses the demographic characteristics of the respondents. A sample size consisting of eighty learners in three out of Fiji's five Agricultural Training Institutions (ATIs) were given the questionnaires. The questionnaires were collected and analyzed using the SPSS. SPSS is a software that stands for Statistical Package for Social Sciences (The University of

British Columbia, n.d.). It is used by researchers for quantitative analysis of complex data. Some of the techniques used include data transformation, Regression analysis, ANOVA (Analysis of variance), MANOVA (Multivariate analysis of variance), and T-tests. One of the reasons SPSS is a popular research analysis tool is that it offers reliable and fast answers (The University of British Columbia, n.d.).

4.3.1 Age Distribution

Most learners fell in the 15-25 age category, which is 70% of the total respondents. While six were from the 25-65 category, only 1 person (1.3%) was more than 56 years old. The sample includes eighty learners from three Agricultural Training Institutions (ATIs) in Fiji. However, 3 data were not valid, hence the total valid population was 77.

4.3.2 Gender Composition

It was interesting to note that 60% of the participants were females. It is encouraging to see that more female learners are enrolled in agricultural programmes. It was noted that thirty-one (31) males, forty-eight (48) females and one (1) other participated in the study.

4.3.3 Marital Status of the Learner Participants

There were eleven (11) married learner participants in the study which made 11.3% of the respondents. The other 67% were single. However, there were four (4) missing data.

4.3.4 Educational Background of the Learner Participants

Most of the learners who participated in the survey were Form 6 pass. Twelve (12) Form Seven passes, which made 27.5% of the respondents; the rest were Certificate passes and others made up 21.3 % of the respondents.

4.3.5 Year joined the ATI for the learner participants during the research

Most of the learners in this survey joined the ATI in 2019 and were in their second year of studies. The rest joined in 2020 and were in year 1 of their studies. Most of the respondents were second year learners, which made 58.8% of the respondents.

4.4 Data Analysis from the Learner Questionnaires

The following data analysis was conducted from the data collected through questionnaires. The primary reason for analysis was to find what the learners had to say for the current agricultural assessments conducted in higher education and what they would like assessments to look like. The data collected assisted the researcher towards the development of a culturally appropriate and sensitive, learner centered assessment framework. Hence, the data is mostly calculated in percentages of the responses to find the majority. The data responses collected through qualitative analysis were placed under similar or like themes. The themes were then calculated for percentage responses to find the themes that were most popular.

Each question has been analyzed and a simple analysis provided below it. The details will be discussed in chapter six (6) and seven (7).

Chart 1: Percentage of learners who experienced different assessment methods

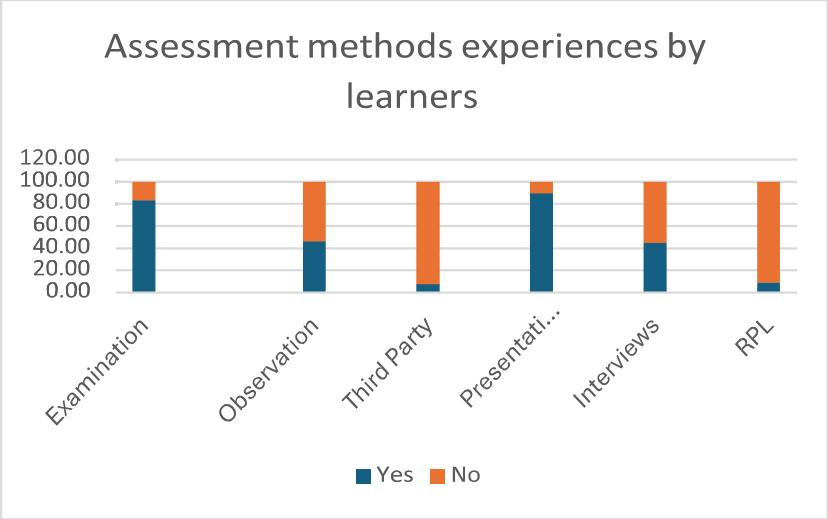


Chart 1 shows that 83.33% of learners have been assessed through examinations, 46.15% have been evaluated using observations, 7.69% experienced third-party assessments, 89.74% have been assessed through presentations, and 4.87% have experienced assessments through interviews, and 8.97% have experienced recognition of prior learning (RPL). The data shows that examinations and presentations were learners' most common assessment methods. Third-party interviews and RPL were not so common for assessments.

Chart 2: Percentage of Learners involved in the development of assessments

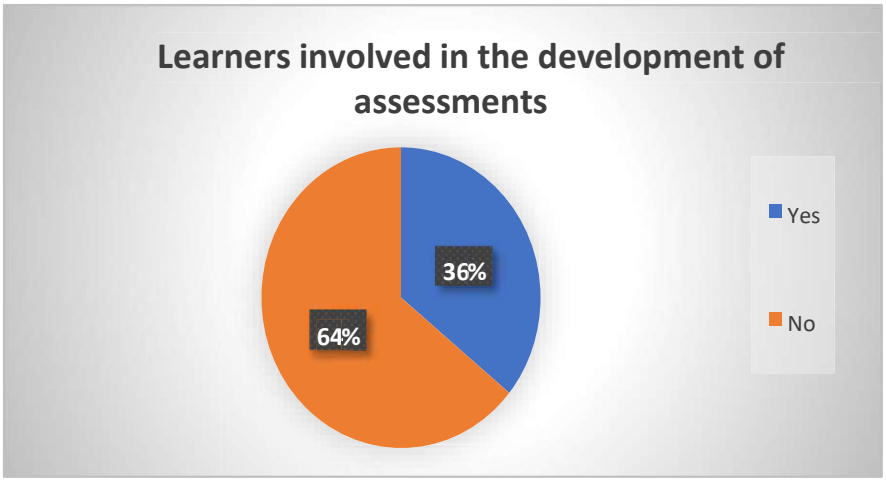


Chart 2 above shows that learners' experience in developing assessment tools is 36%, whereas 64% of learners were never involved in developing assessments. When asked learners if they had been part of the discussion on assessments, the majority answered that they had never been part of any discussions to decide on the type of assessments they could use to show evidence of their learning. The one who said they were involved mainly consisted of very basic decisions such as choice of topics, or timeframes and due dates.

Chart 3: Should Learners be involved in the designing of assessments

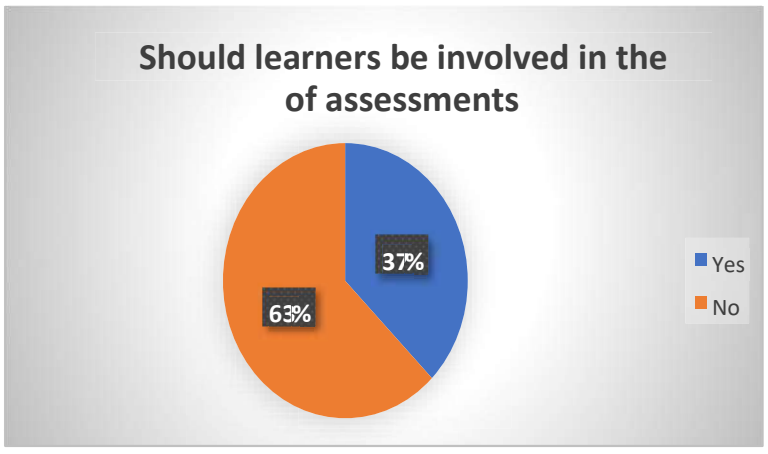


Chart 3 shows that 37% of learners believe they should be part of designing assessment tools, whereas 63% believe they should not be part of assessment tool development.

Chart 4: The emotions of learners while participating in assessment development

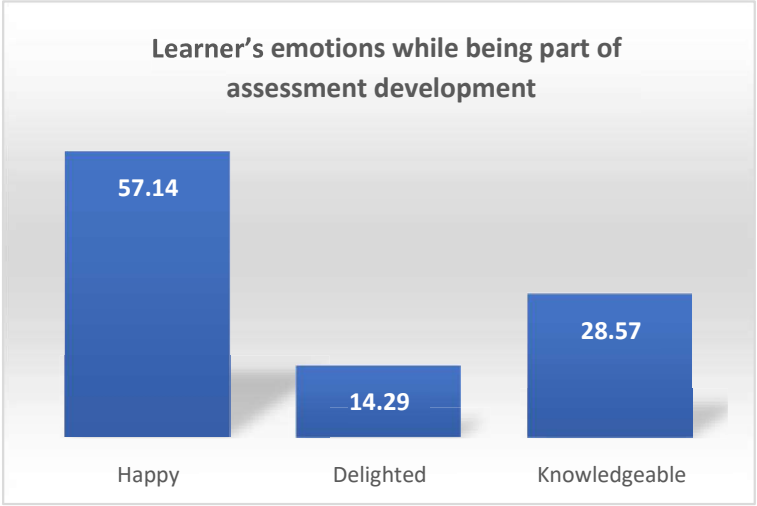


Chart 4 given above shows that many of the learners (57.14%) were happy, fourteen cent (14%) felt delighted, and twenty-eight per cent (28%) became more knowledgeable for being part of the development of assessments.

Chart 5: Percentage of attitude, values, and culture development through current assessments

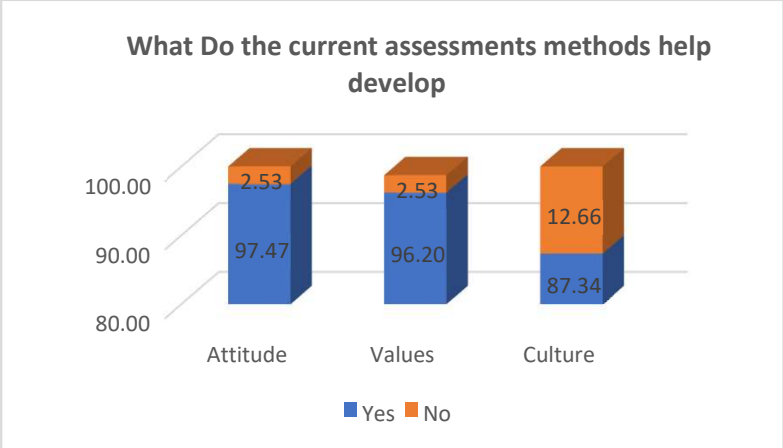


Chart 5 shows that ninety-seven per cent (97%) of learners agree that current assessments measure attitude, ninety-six per cent (96%) say that it measures values, and eighty-seven per cent (87%) believe that the current assessment considers the culture of learners. Overall, 20% of learners felt that current assessments did not help develop those values.

Analysis of Current assessment methods for attitude development

Many learners, (96.3%), agreed that the current assessment methods helped them develop the right attitude. However, there was a small percentage that did not agree that they were provided with the right attitude.

Analysis of the development of values using current assessment methods

Most of the learners in Table 14, (93.8%), agreed that the current assessment methods helped them to develop their values. However, there was a small percentage that did not agree that they were provided with the correct values.

Analysis of current assessment methods for the development of culture

Most learners in Table 15, (85%), agreed that the current assessment methods helped them develop their values. However, there was a small percentage that did not agree that they were provided with the correct values.

Chart 6: Learners' knowledge of ancient assessment methods

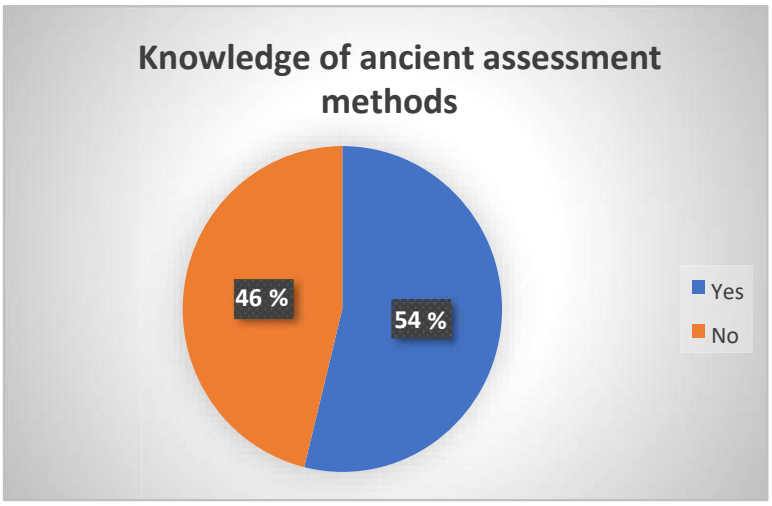
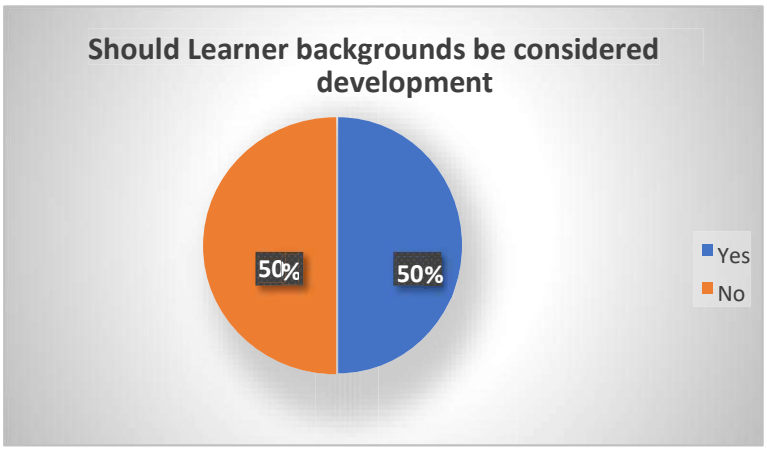


Chart 6 shows that fifty-four per cent (54%) of Learners know ancient methods of assessment, whereas forty-six per cent (46%) were unaware of the ancient methods of assessment.

Chart 7: Learners' perception of including learner backgrounds in assessment development



Interestingly, Chart 7 shows that fifty per cent (50%) believe that Learner backgrounds should be considered when developing assessment tools, and the other fifty per cent (50%) do not think it is essential.

How assessments affect learning time?

Most learners (35%) engage some of their study time in their assessments. Forty per cent (17.5%) spent most of their study time on assessments, and twenty-two point five per cent (22.5%) spent almost all their study time doing assessments.

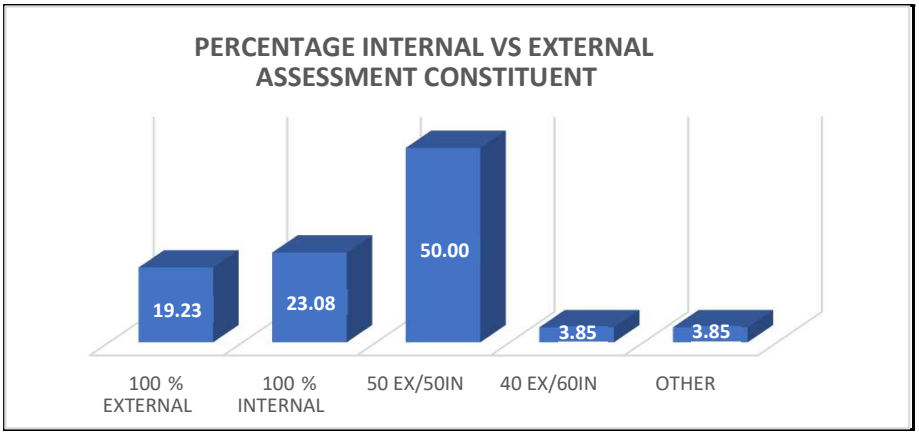
How happy are learners with their current assessments?

Thirty-two point five per cent (32.5%) of the learners are extremely satisfied with their current assessment. Thirteen points eight per cent (13.8%) were very satisfied, and eight-point eight percent (8.8%) of learners were either highly satisfied or moderately satisfied with their current assessments. Out of 80 learners, only 51 responded to this question, which could mean that 29 respondents did not wish to answer or were not happy but reluctant to tick the box.

Percentage of internal vs external assessment composition

Most learners (16.3%) suggest 50-50 or 40-60 internal vs external assessment composition. However, twenty-five percent (25%) still preferred 100% external or examinations. Internal here stands for coursework, and external means final examinations.

Chart 8: Learner's perception of the assessment constituent for internal vs external



Of most learners in Chart 8, fifty percent (50%) believe assessments should be fifty (50%) external and fifty (50%) internal. This is followed by twenty-three per cent (23%) believing that assessments should be 100% internal and nineteen per cent (19%) saying that they should be 100% external. Three per cent said it should be 40% external and 60% internal, and three per cent (3%) did not agree with the constitutions provided. For this questionnaire, internal assessment refers to internal coursework, and external assessment refers to examinations.

4.5 Analysis of issues discussed by learners in assessments

Table 6: Learners' responses in their involvement with the development of the assessments

Question	Responses	Percentage (%)
What was the assessment that you were involved in developing?	Analyzing data	4
	Examination	6
	Practical	6
	Farming	17
	Flower arrangement	6
	Presentation	44
	Project	11
	School assessment	6

According to the findings in Table 6, many learners (44%) were involved in developing the presentation assessment. Examinations, and farming followed with twenty-three per cent (23%). The third highest learner involvement was in projects (11%).

Table 7: Types of assessments that learners were involved

Question	Responses	Percentage (%) response
What was your role?	Operate a rotavator	44
	Arrange flowers	14
	English project	14
	Identify pest	14
	Interview	14

As per the findings in Table 7, the primary types of assessment were operating a rotovator (44%), arranging flowers (14%), doing an English project (14%), identifying pests (14%), and conducting interviews (14%).

Table 8: Learners' feelings about participating in assessment development

Question	Responses	Percentage (%) response
How did you feel?	Amazed Thrilled Wonderful Good Learned more Learned to arrange flowers More knowledge and satisfaction	78
	Sacrifice Nervous but okay	22

The findings in Table 8 show that most learners (78%) had positive feelings about being involved in developing assessments. They felt amazed, thrilled, excellent, good, satisfied, and okay to be part of the development. They also had the opportunity to gain more knowledge and skills. However, 22% found it to be nervous and required sacrifice.

Table 9: Why learners should be part of assessment development

Question	Responses	Percentage (%) Response
Why should learners be part of assessment development?	Learners know outcomes	65
	Understand and know your own experiences and weakness	4
	Allow learners to manage and do assessments	4
	Plan and improve assessment design	15
	Can be vigilant	4
	Development of course	4
	Help in surrounding	4

When the learners were asked why they should be part of the assessment development, all (100%) answered this question positively, as shown in Table 9. The majority (65%) agreed that learners would know the outcomes of what they need to learn and know and understand their experiences and weaknesses. This will allow them to manage and do the assessments more vigilantly. Fifteen (15%) believed they could help plan and improve assessments.

Table 10: How involvement in assessment development benefits learners

Question	Responses	Percentage (%) Response
How does it help the learner to be part of the assessment development?	Lifelong experience	4
	Assist in choice	4
	Learn the outcome	50
	Know aspects of development	4
	Improve shortcomings	13
	Helps in learning	9
	Give ideas and creative ideas	4
	Future endeavors	4
	Motivates Learner	4
	Boost confidence and mind	4
	Familiarize their learnings	4

Most (50%) of the learners, as shown in Table 10, suggested that being part of the assessment development helps improve the outcome. Followed by 13% of learners who said it improved

shortcomings. They also mentioned that being part of assessment development allows them to give creative ideas and helps them choose assessments. The findings also show that it boosts and motivates learners' confidence and broadens their minds. It helps improve their shortcomings.

Table 11: Changes the learners would make to assessments if given a chance

Question	Responses	Percentage Response (%)
What would you do if you could change assessments?	Carry out activities in class and survey to see the impact	4
	Make sure learners take responsibility for completing and following up	4
	Observe outcomes	4
	Capture attention	4
	Do a workshop	36
	Relate to previous assessments	4
	Questionnaires and interviews	4
	Providing marking criteria as a guide when lost during assessments	4
	Prepare with a better understanding	4
	Prepare exams as per the syllabus	4
	Oral examinations	4
	Make assessments according to learner capability	4
	40% theory and 60% practical	4
	Give a short test	4
	Encourage assessment designing	4
	Demonstration	4
	Consider learner opinion	4

In Table 11, thirty-six percent (36%) of the learners suggested that workshops must be included in assessments. The rest suggested a range of changes in the assessments. Interestingly, they suggested that examinations could be conducted orally and must be around the syllabus. According to the findings on what you do in Table 10, many learners (40%) indicated that they would build a workshop if you could change assessments. They would like to be given equal opportunities for the following followed this:

- Development of oral examinations, short tests, interviews, demonstrations, and questionnaires
- They would encourage assessments to be based on the syllabus.
- Forty (40) per cent theory and sixty (60) per cent practical.
- Encourage assessment designing according to learner capability and considering learner opinions
- Make sure a marking criterion was provided to guide during assessments.
- And make sure learners take responsibility for completing and follow-up assessments.

Table 12: Why learners should not be part of assessment development

Question	Responses	Percentage (%) Response
What are the reasons for not allowing learners to be part of designing assessments?	No-fall or drawback	3
	Learners don't know how to design	3
	Too young and still learning	10
	Lack of experience	13
	Learners can ask tricky questions	3
	Learners not interested	3
	Transparency	3
	Learners do not contribute	3
	Maybe the assessment is not suitable for the level	5
	Prevent cheating	10
	Not qualified and confident	18
	Bias and conflicts	5
	100% pass rate	6
	Need to know about designing assessments	15

Fifteen percent (15%) of the learners, as shown in Table 12, believe they must know about designing assessments, and eighteen (18%) percent suggest that they are not qualified or confident to develop assessments. The others feel that they might cheat, be biased, have conflicts, ask tricky questions, or may not contribute to the development. Yet a number also felt

that the assessment might not be at a suitable level or be transparent. Yet others think that the learners are too young and inexperienced. Some are also concerned that there will be a 100% pass rate, fallback, or drawback.

Table 13: Challenges in allowing learners to be part of the assessment designs

Question	Responses	Percentage (%) Response
What are the challenges of allowing Learners to be part of assessment designs?	Too many ideas and methods	4
	Completing assignments and due dates	12
	Lack of knowledge and ideas	31
	Assessment may not match	4
	Allocation of marks for all group members	4
	Affect results and study time	8
	Need a complete understanding of the curriculum	33
	Learners may give tricky questions	4

Table 13 shows that most responses were from learners who felt they needed full knowledge and understanding of the curriculum (33%) and may lack knowledge and ideas (31%). Many learners (12%) said they would not complete assignments by due dates, which may keep changing. Others were mainly concerned with too many ideas and methods, allocation of marks for all group members, and assessments may not match.

Table 14: Types of assessments that learners are aware of.

Question	Responses	Percentage (%) Response
What types of assessments are you aware of?	Presentation (oral, individual, PowerPoint)	16
	Social media	1
	Short test	5
	Essays	2
	Assignments	7
	Farm and industrial attachments	4
	Interviews	6
	Practical	9
	PowerPoint	1
	Field assessment/study	4
	Project and project reports	5
	Questionnaires	2
	Tutorials	2
	Examinations	14
	CBA/CBT	16
	Observation	6

As per the results in Table 14, the major types of assessments that learners were aware of included Competency-based training and assessment (16%), examinations (14%), presentations (16%), assignments (7%), and practical (9%). The others included tutorials, observation, field assessments, projects, interviews, essays, and questionnaires.

Table 15: What are learners assessed on?

Question	Responses	Percentage (%) Response
What were you assessed on?	Skills and knowledge	9
	Livestock	9
	Crops	9
	Practical	16
	Notes	4
	Academic	5
	Presentation	11
	Schoolwork	1
	Confidence	3
	Work ethics	1
	Content	13
	Attendance	9
	Attitude	6
	Climate change	4

Most learners in Table 15 wished to be assessed on what they have been taught, such as content, crops, livestock, practical skills, knowledge, and presentation. The other aspects included attitude, work ethics, climate change, attendance, and confidence.

Table 16: What would the learner like to be assessed on?

Question	Responses	Percentage (%) Response
What should your assessments be like, or would you want to be assessed on?	Agriculture	1
	Climate change	3
	Content	6
	Dairy farm observation	9
	Farming	3
	Livestock	50
	Practical	16
	Unit by unit	6
	What is being taught	6

Most learners as shown in Table 16 said they would like to be assessed on content such as livestock through practical and dairy farm observation. They should be assessed unit by unit.

Table 17: The most liked assessment

Question	Responses	Percentage (%) Response
What was one assessment that you liked?	Assignment	1
	Attendance	1
	Examination	4
	Practical	17
	Garden maintenance	20
	Interviews	6
	Content	2
	Industry based	2
	Tutorials	2
	Short test	6
	Working on a farm	4
	Observation	6
	On-farm	12
	Project	1
	Presentation	12
	Internal assessment	4

Most Learners in Table 17 preferred to be assessed for garden maintenance, followed by practical presentations. The other preferred assessment types were interviews, short tests, observation, farm work, and internal assessments. Learners' least preferred assessment types included projects, content, industry-based, on-farm, and tutorials.

Table 18: Why the learners like a particular type of assessment?

Practical – 72%	Presentation – 22%	Observation – 6%
Provides more Knowledge	Allow me to speak my mind	Allows dealing with the situation
Complete on time	Allows the exchange of ideas	Allows putting skills to the test
Easier to do and understand	It allows me to show what I have learned in a short time.	
Fun and enjoyable	Build confidence and stand in front of a crowd.	
Experience new things	Communicate verbally	
Guidance provided	Based on my thoughts	
It helped me to practice what I learned rather than theory in the classroom.		
Learn More		
Involves previous experiences		
Practice what I learned in class - skill-based		
Prepares learners for fieldwork		
Use of different tools		

Table 18 shows learners' responses to why they liked certain assessment methods. The learners found that practical assessments and presentations made them confident, helped them practice what they learned, and made learning more accessible and fun. Seventy-two percent of learners (72%) preferred practical assessments, followed by twenty-two percent (22%) for presentations, and six percent (6%) preferred observations as a means of assessment.

Table 19: Characteristics of good assessments perceived by learners

Knowledge – 48%	Skills – 34%	Attitude – 18%
It allows me to learn about what's happening in the world	Action the learnings	Aspects of culture should be embedded
Gives more ideas and knowledge	Adapt to new skills	A balance between theory and practical
Good learning	Clear teaching and instructions	Being corrected
Group work	Develop skills and confidence	Build confidence
Helps in prior learning	Increases understanding	Community skills
How ideas are elaborated	Involves learning standards	Engage religious aspects
Improve new learning	Make mistakes to be corrected.	
Knowledge	Marking criteria	
Learning new concepts	Practical	
Learning new knowledge and information	Skills	
Questions easy to understand	People-centered	
Self-Directed-Learning	Personnel experience in the field	
Theories only		
Understand new things		
Understand questions		

The responses to the question on the characteristics of a good assessment were correlated under the three headings of the three domains of learning - knowledge, skills, and attitude. The responses in Table 19 have been divided under the three competencies or domains for teaching and learning. Forty-eight per cent (48%) of learners preferred skill-based assessment. Thirty-four per cent (34%) believe it should be knowledge-based, and eighteen per cent (18%) say it must include values or attitude.

Table 20: Assessments that learners did not like

Question	Responses	Percentage (%) Response
What was one assessment you did not like?	Assignments	2
	Examination	30
	Tutorial	2
	Field assessment	2
	Short Test	5
	Practical	10
	Presentation	19
	Interview	3
	None	27

As per the data in table 20, most learners (30%) did not like examinations. This was followed by a presentation (19%) and practical (10%) assessments. Twenty-seven per cent (27%) liked all types of assessment. Short tests and interviews were the other two types that were not too popular, followed by assignments and field assessments. Of most learners in Table 34, fifty-six percent (56%) did not like examinations as assessments, followed by forty percent in presentations (40%), and five percent did not like skill-based assessments. Table 35 lists reasons for the dislike of each assessment method.

The learners provided the following responses when enquired about the reasons for disliking specific assessment methods. All responses were divided under three (3) headings to correlate with the three (3) major assessment methods as shown in Table 19.

Table 21: Reasons for disliking the assessment method

Examinations – 55%	Presentations – 40%	Skills Based – 5%
Too many questions	Lack of confidence	Causes blister and injury
Complicated and hard questions	Embarrassing to face crowds	Farming skill is tested
Cannot complete on time	Low self-esteem	Must work in the field
Hard to explain	Feel Shy	
A lot of revision and studying are needed	Not good at public speaking	
Stressful	Not ready, overloaded, lot of reading	
Study late nights	Printing costs	
Time-consuming	Not fun	
Difficult, tiring, and irritating		
Not everything is applied in the field.		

As per the results shown in Table 21, fifty-five per cent (55%) of the learners did not like examinations and provided the reasons for their dislike in the table above. Forty per cent (40%) did not like presentations for the reasons provided in the table above. Five per cent (5%) did not like skills based on the reasons for dislike provided in the table above.

Table 22: Learner responses to methods used by ancestors

Question	Responses	Percentage (%) Response
Methods used by ancestors to assess learning?	Hands-on practical	18
	Examination	1
	Fijian months	3
	Traditional methods	26
	Meaning from generation to generation	38
	Observation	14

Table 22 shows that most learners (38%) said that their ancestors used meaning from generation to generation as the main method of assessment for learning, followed by traditional methods at twenty-six per cent (26%) and by hands on practical (18%). Here, traditional methods and meaning from generation to generation could mean the same thing, however, here it could be different in terms of soft skills, technical skills, methods of assessment, and ways of granting competencies. For example, using performances to assess songs and dances. Assessment is

based on the seafood catches made by the learner regardless of timeframe by the seniors or experts. The assessment of leaders for the future is based on criteria set by the elderly of the community and assessed in their own ways of doing things.

Table 23: Learner responses on why they consider cultural backgrounds necessary

Question	Responses	Percentage (%) Response
Why do you think it is essential for assessments to consider the cultural backgrounds of Learners?	We are Fijians	26
	Cultural ideas and ways	9
	Vital knowledge to pass on	3
	Important practices	3
	Know each other's culture	47
	Use language	9
	Respect and value each other's culture	3

Forty-seven per cent (47%) of the learners in Table 23 responded to the reasons for considering the cultural backgrounds of learners by saying that it is essential to know each other's culture. Twenty-Six per cent (26%) said it is essential because we are all Fijians. Nine per cent (9%) said cultural ideas and ways are essential information. The rest said it is important because it is vital to pass on the knowledge, practices, respect, and values for each other's culture.

Table 24: How learners think that culture can be embedded in assessments

Question	Responses	Percentage (%) Response
What and how should aspects of culture be embedded in assessments	Practical	3
	Use of own language	6
	Respect	40
	Assessments are done in cultural ways	15
	Cultural values are considered	15
	Different planting methods	3
	Diversity	3
	Fairness and flexibility	15

Forty per cent (40%) of learners in Table 24 said that the important aspect of culture to be embedded in assessments is the concept of respect. This was followed by several Learners saying that assessments should be made in cultural ways, cultural values are embedded, and they should be fair and flexible. Six per cent (6%) said that assessments must be made in their language. The others mentioned practical, different planting methods and diversity to be embedded in assessments.

Finally, the learners were asked to determine the assessment methods that would be best for considering the cultural aspects. They gave the following answers.

- Field observation
- All assessments
- Storytelling
- Talanoa sessions
- Group assessments
- Assignments
- Relive cultural practices
- Cultural rights
- Practical
- Day classes
- Third-party reports
- Values and customs
- Survey
- Interviews
- Presentation on problem-solving
- Creating ideas
- Essays
- Calculations
- Video presentations
- Written in different languages
- Oral
- Media
- Research
- Projects

The list of assessments given by the learners shows that they are aware that they can be assessed in different ways, and it can ensure that it is culturally appropriate. Hence, the use of new assessment methods to assess learners will not be surprising. The learners are keen to be assessed using new methods to make learning interesting and culturally appropriate and sensitive.

4.5 Data analysis on curriculum documents and educator feedback

Table 25: Presence of outcomes in the sampled curriculum documents

Sample Number	Qualification	Outcomes are present	Including cultural values
1	Certificate 2	Yes	None
2	Certificate 3	Yes	None
3	Certificate 3	Yes	None
4	Certificate 4	Yes	None
5	Diploma	Yes	None

It was evident from the findings in Table 25 that all institutions (100%) had learning outcomes stated in the curriculum documents. However, it was noted that none of the samples studied had any outcomes related to cultural values or aspects of culture. The unit descriptors had three (3) types of outcomes:

1. Overall course outcomes
2. Individual topic outcomes
3. Individual lesson objectives

4.5.1 Findings of the Curriculum Documents

Chart 9: Percentage of course outlines for sampled curriculum documents

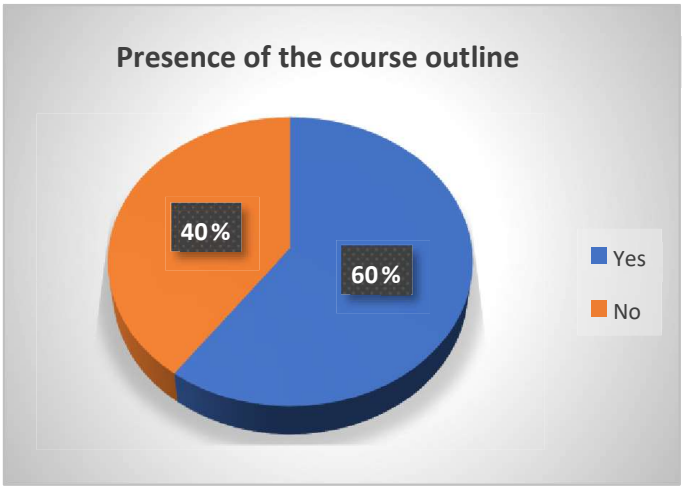
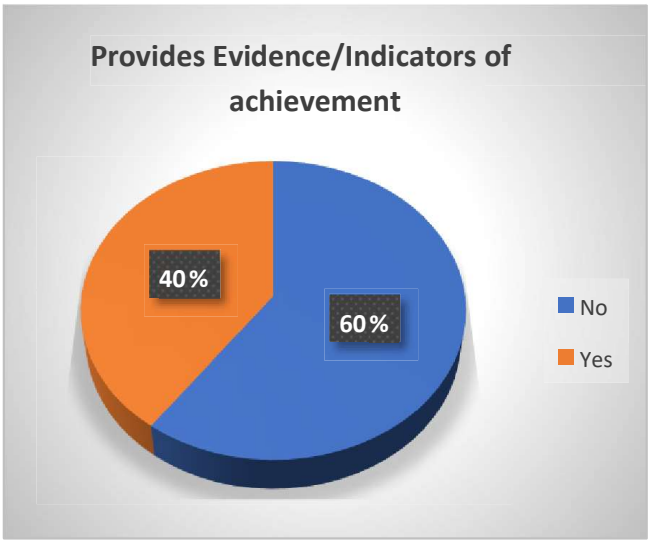


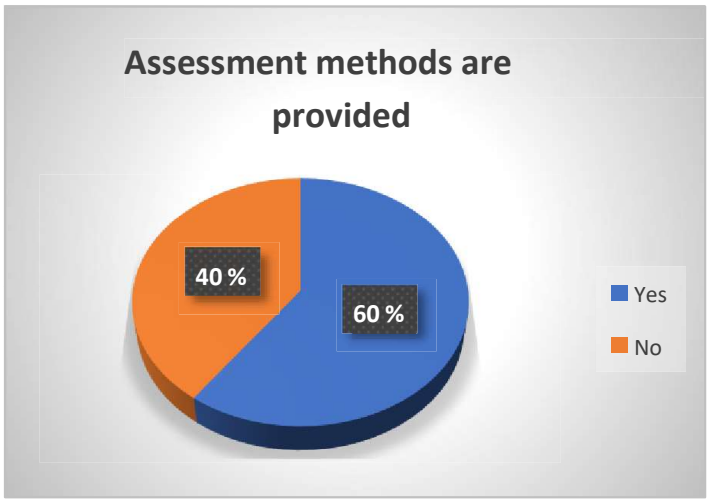
Chart 9 shows that samples of curriculum documents called units or descriptors collected from three (3) ATIs showed that sixty per cent (60%) had course outlines attached. Forty per cent (40%) did not have the course outline attached to the unit standards. Forty per cent developed the course outlines separately using module templates by the Educators from the units depending on the resources, learners, and context.

Chart 10: Percentage of curriculum documents with evidence for each outcome



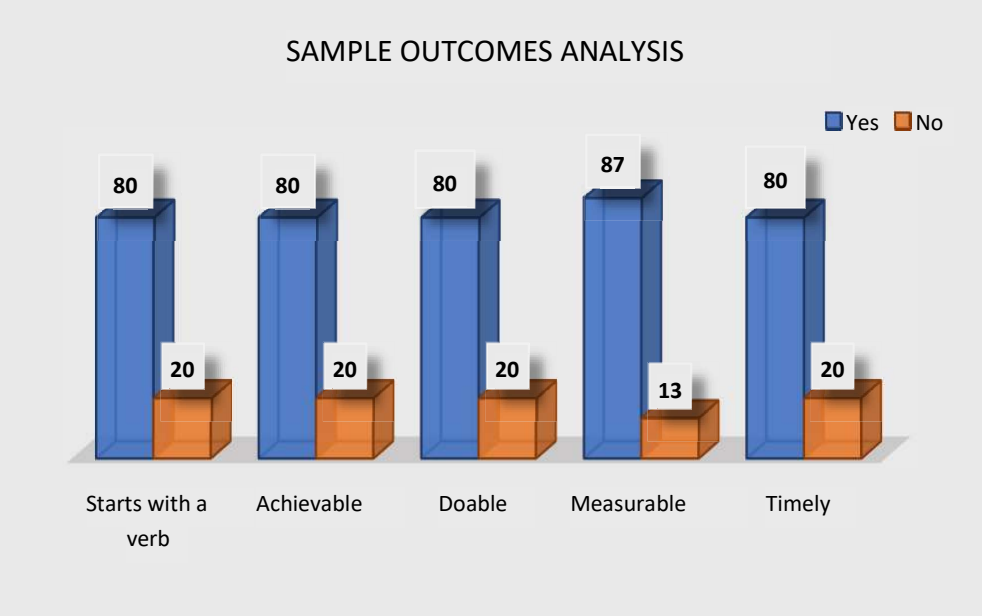
The findings in Chart 10 show that forty percent (40%) had explicitly provided evidence of requirements or achievement indicators for each outcome. These were the National qualifications. However, the provider qualification lacked the achievement indicators for all the outcomes.

Chart 11: Percentage of documents with the assessment methods prescribed in the curriculum



Sixty per cent (60%) of documents in Chart 11 show that the provider qualifications had the assessment methods prescribed in the unit descriptors. The weightings for each assessment method were also prescribed for the provider qualifications. However, forty per cent (40%) of documents for the unit standards in the National Qualification did not have the assessment methods prescribed. Educators developed assessment methods and criteria for assessment in a separate template known as the Assessment Tool template.

Chart 12: Analysis of the outcomes provided in the sampled documents



Eighty percent (80%) of the outcomes, as shown in Chart 12, started with a verb (Doing word), and the other twenty percent (20%) did not begin with a verb. According to the University of Wisconsin-Madison, (n.d.) outcomes state what learners are expected to know and do upon the completion of a course programme. Outcomes must be clear, observable and measurable. It must be reflected in the assessments and the content. However, this study found 20% of the time the outcomes were not clear, measurable or observable because there was no verb to determine the assessment methods.

The same eighty percent outcomes were doable and achievable. Eighty-seven percent of the outcomes were measurable. Out of the samples studied, thirteen percent (13%) were not measurable because they were either too broad/not clear or could not be done within the credits for the unit. It was also noted that eighty-seven percent (87%) of outcomes could be measured but as noted earlier, some within this 87% of outcomes were not clear or completed with the timeframe or credits for the unit.

4.5.2 Comparative Analysis of Assessments – Constructive alignment

Five examples of constructive alignment from the sampled units of the three ATIs were taken, and a constructive alignment comparative analysis was done for five different outcomes.

Table 26: Comparative analysis for the five (5) sampled unit standards for constructive alignment

Sample Number	Constructive alignment	Course content	Assessment methods match outcomes
1	No	Not Sufficient	No
2	No	Not Sufficient	No
3	No	More than the outcomes	Partly
4	No	More than the outcomes	Partly
5	Yes	Okay	Yes

Five curriculum documents were randomly picked from the three (3) ATIs that were selected for this study. Table 26 shows that four (4) of the five (5) sampled units did not align the

outcomes, course content and assessment. Two (2) samples did not have sufficient content to fulfil the outcome requirements, and two (2) showed that the content exceeded the outcome requirements.

One (1) sample in the study showed a good constructive alignment from the outcomes to the assessments. The outcomes were assessed correctly using appropriate assessment methods that met the learning outcomes. While assessing the curriculum documents, it was found that one of the samples referred to cultural and traditional knowledge in a short test.

Table 27: Outcome streamlining through levels

Subject/Year	Farm Management	Soil Science	Horticulture
Certificate 1	List of farm resources.	List the types of soil.	How to Transplant.
Certificate 2	List of farm resources.	List the types of soil.	How to Transplant.
Certificate 3	List and describe the farm resources.	List the types of soil.	List the requirements for transplanting.
Certificate 4	Not Found	Not Found	Not Found
Certificate 5	No Programme Document	No Programme document	No Programme document
Diploma	List of farm resources.	List the types of soil.	How to Transplant.

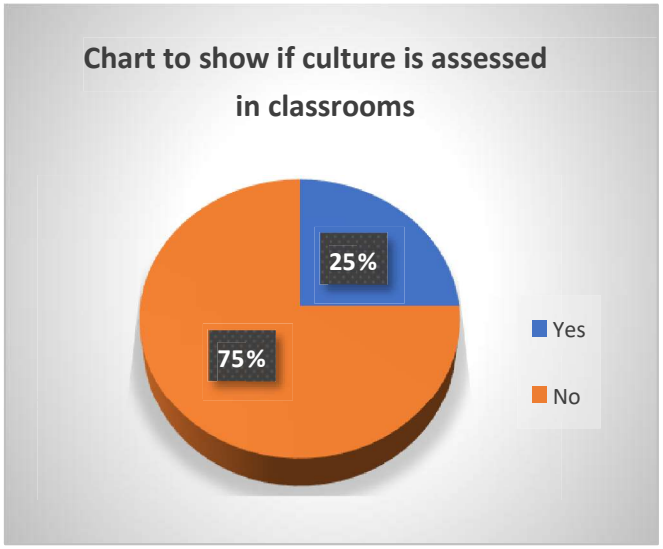
Table 27 shows the complexity of outcomes as the level of the certification increases in one of the ATIs. It was noted that some of the outcomes did not continue throughout the programmes and yet others were not present. The reasons may need to be verified by the ATI for this trending. However, it is noted that most of the outcomes have not increased in complexity with increasing level of certification, hence learning is stagnant.

4.5.3 Findings of Educator Responses

1. Culture is taught in the classrooms, but is it assessed?

The following responses were received from respondents. These questions were specifically targeted for educators to provide responses for questions around involvement, integration and assessment of culture in the classroom.

Chart 13: Percentage of educator responses to assessment of culture in classroom



Seventy-five per cent (75%), as shown in Chart 13, of the educators from the focus groups agreed that culturally appropriate pedagogies are used to teach in the classrooms but are not assessed using culturally appropriate methods. However, twenty-five per cent % (25%) agreed that culturally appropriate teaching and assessment methods were being used in the classroom.

2. What do you understand by culture?

The following responses were received from learners when asked what they understood by the term culture.

1. It is the way of life learned from our forefathers and passed down to us through generations.
2. Different people have different ways of living and understanding, which identifies them.

3. Do you think assessing cultural values and using culturally appropriate methods of teaching and assessments are possible?

All the educators who were part of the focus group discussion believe that culturally appropriate teaching and assessment methods are possible in the classroom.

4. How do you include cultural teaching and learning methods in your programme/curriculum?

- Go down to the student's level to teach
- Story telling
- Lead by examples
- Create a better atmosphere
- Woven throughout the programme
- Self-realization sessions
- Become an adaptive educator
- Being a role model
- Understanding your learners

5. Methods of assessing culture/values

- Real-life experiences.
- Become their friend and to their level.
- Attitudes.
- Informal assessments – assessment during the informal conversation where the Learner is assessed without their realization.
- Actions.
- Having a mixed cultural environment.
- Observation.
- Verbal.

6. Is culture-based teaching and learning meaningful in schools?

All educators in the focus group agreed that culture-based teaching and learning are essential in schools.

- Explain where we come from.

- Broaden our knowledge about other's ways of doing things.
- It helps develop an understanding of each other's ways of seeing things.
- It helps build respect toward each other.

7. Are outcomes for values measurable?

Chart 14: Value-based assessment

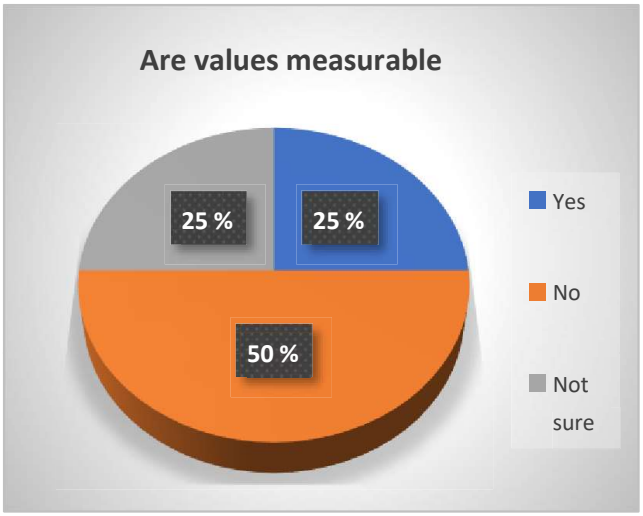


Chart 14 shows that fifty per cent (50%) of the participants felt that value-based outcomes could not be measured, while twenty-five per cent (25%) said that value-based outcomes could be measured. Another twenty-five per cent (25%) were not sure.

8. Can we develop an assessment framework inclusive of culturally appropriate methods of assessment, learner backgrounds and values-based outcomes?

Chart 15: Percentage responses on developing a culturally appropriate and competent assessment framework

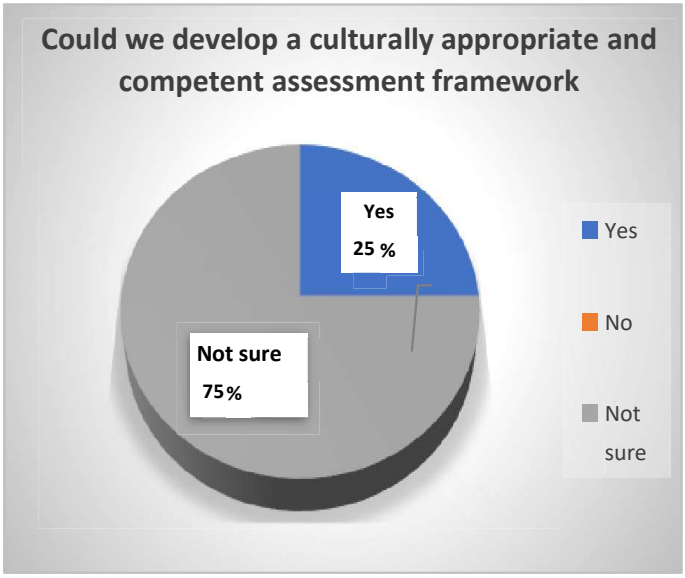


Chart 15 shows that seventy-five percent (75%) of participants were unsure if a culturally appropriate and competent assessment framework could be developed. However, twenty-five percent of participants thought it was possible to create a framework. No participant strongly disagreed with the idea.

9. What would the framework look like if it were to be created?

- Cultural literacy
- Multiple languages
- Values literacy
- Multiculturalism
- Customs and ritual literacy

10. Provide some examples of assessment standards for the framework.

- Ability to learn and understand the importance of different cultures

- Ability to learn and understand the values of life
- Ability to understand and apply cultural practices
- Ability to respect and love all cultures

11. What types of resources would be required to implement a culturally appropriate assessment framework?

1. Physical – Texts books from different cultures
2. Human–approachable educators

- Good ethics.
- Interpersonal skills
- Sets good examples of values.
- Leads by examples.
- Encourages good behavior.
- Encourages critical thinking.
- Problem-solving through traditional knowledge.
- Timetable – values should be implemented in the curriculum and taught in family life classes. Religion is a sensitive topic. Thus, care must be taken while introducing the topic.

12. People's worldviews are different. Thus, how do you use this as an asset in the classroom?

- Respect each other
- Common understanding
- Listening
- Understanding their different points of view

13. Do you connect to different cultures while teaching?

Chart 16: Responses to connecting different cultures in the classroom.

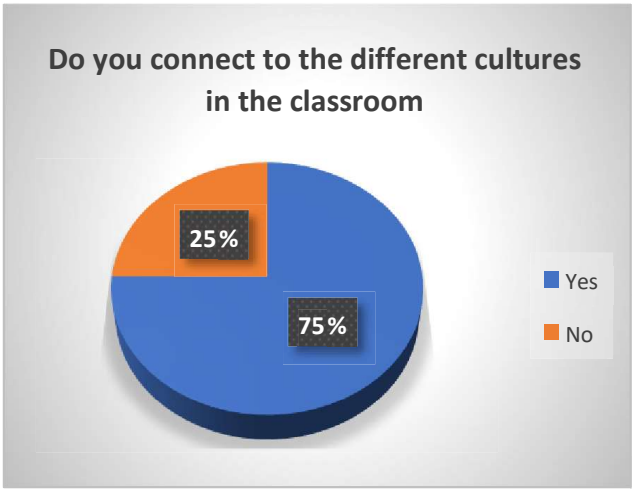


Chart 16 shows that seventy-five per cent of educators connect with their learners from different backgrounds. It also shows that twenty-five percent (25%) do not connect with their learners' backgrounds.

14. Methods used to connect each other:

- Cluster group worksheets
- Informal gathering
- Field visits
- Talanoa sessions
- Speak to each other using their mother tongue

15. Reasons for using these methods:

- Transfer of knowledge
- Build trust
- Associate with each other through informal sessions
- Build respect

Mostly, educators and institutions take it upon themselves to teach culture and values to the learners. However, the literature suggests that teaching and learning culture and values must be left to the learner's responses. Letting the learners share and explain their cultural values and experiences helps them build a sense of respect and acceptance. Learners from similar backgrounds may have diverse perspectives, opinions, or positions on subject matters. Thus, educators must not believe in grouping learners based on the assumption that they are the same because they come from similar backgrounds. The study noted that educators were reluctant or not confident to allow learners from diverse backgrounds to share conflicting or opposing opinions and perspectives with respect and understanding.

4.6 Chapter Summary

This chapter shows the findings of the analysis carried out on the curriculum documents studied by agricultural training institutions. It was found that the programme documents may require improvements including learning outcomes, learning progression, and pedagogical approaches. It also must be learner centered, inclusive, culturally appropriate and sensitive.

This chapter mainly shows the data analysis on the learner and stakeholder responses. It shows the percentage responses provided by the learners against the questions. The responses assisted the researcher in developing the culturally appropriate and sensitive assessment framework. Learner contributions and responses helped in ensuring a learner centered approach towards the development of the framework. The major findings in this chapter is that learners are not happy with examinations as the means of assessment and would like to diversify into other forms of assessments. It was also noted that assessments is not a popular topic with learners because the responses are not diverse.

This will be discussed in chapter seven in detail. The next chapter presents the analysis of the curriculum documents. The next chapter will discuss the findings, including the analysis of learner and stakeholder responses as well as the curriculum document analysis.

CHAPTER FIVE – DISCUSSION

The intelligence of a wise and active man, free from attachment and aversion, remains untarnished like a lotus leaf unmoistened by water (Warrier, n.d.).

5.0 Chapter introduction

This chapter discusses the analysis of the results in Chapters 4. The discussion will develop into a new assessment framework supported by a culturally appropriate model based on the Hindu thought philosophy to address the problems and issues arising from the results and findings of this study.

This story is a discussion on the results and findings that tells the reader on how it was woven together to determine the need for a culturally appropriate and competent assessment framework. It begins with a discussion on the five (5) hypotheses, sampled curriculum documents and ladders into the composition and designing of a good curriculum.

5.1 Five hypotheses

5.1.1 Hypothesis 1:

Learners are involved in developing assessments in Fijian agricultural education at vocational levels. Chart three in Chapter Five (5) shows that only thirty per cent of learners were ever involved in some assessment development. However, in chart three, sixty-three per cent of learners believe they should not be part of assessment tool development. Chart ten also shows that forty-two per cent of learners are extremely satisfied with current assessments.

Although literature suggests that learners should be part of performance-based learning, this study reveals that neither the learners nor educators are prepared for learner involvement in assessment development. Sluijsmans, (2002) defines peer assessment as an activity to involve learners in assessment. Like any other skill, learners must be trained to conduct assessments to evaluate their workplace performance, including real life, continuously.

This skill should be taught to learners because it will be used when they join the employment sector and are required to conduct performance-based assessments. However, this skill is complex and cannot be achieved in one course. Thus, learners must be provided with the opportunity to develop criteria, be allowed to make judgments, and provide feedback for learning.

Stiggins, (2002) says that learner involvement in assessment development opens up the process and invites learners as partners so they can monitor their achievements. It encourages record-keeping and sharing with others. Involvement also allows them to control their learning, thus building confidence. Instead of preparing learners to fear results, they are ready to tell a positive story of their successful journey.

Assessments are often seen as monstrous activities that must be conducted in isolation, and learners continually fear failure. The study revealed that examinations in Fiji drive schooling. Thus, teaching and learning are about passing tests, and all effort throughout a learner's life is driven by it. Chart 8 confirms that the current assessments take most of their study time. Chart two confirms that examinations are still the primary assessment method, followed by presentations and observations.

Thus, it is null and void that learners are involved in developing assessments in Fijian agricultural education at vocational levels.

5.1.2 Hypothesis 2:

Learners' cultural backgrounds and worldviews are inclusive of the decision when designing the agricultural assessments in Fiji.

Hershock, (2010) stated that student variation is the most complex factor in the 21stcentury classroom. The complexity in variation ranges from social class, gender, religion, ethnicity, and individual learning styles. According to Hershock, (2010) diversity is the extent to which differences are activated for meaningful contributions toward the sustainability of relations and mutual contributions. Hershock, (2010) also goes on to say that educating about diversity should enable the differences of each to make a difference for all. During the study, the

researcher found that fifty per cent of the learners and a hundred per cent of educators believe cultural background should be considered while developing assessments. However, note that fifty-four per cent learners chose not to answer this question. Fifty per cent of the respondents said yes, while one per cent said no. One reason for not answering this question could be that these learners were unsure of the need to include a learner background. Another reason could be that most learners have not been part of assessment development for most of their lives. Thus, the realization that it is crucial may never have occurred to them. The study indicated that sixty-four per cent had never been part of any assessment development.

The study showed an exciting finding referencing cultural and traditional knowledge in one sampled curriculum. However, this was not explicit in the outcomes or course content. It appeared in one of the short test assessments. This could mean educators reference cultural and traditional knowledge not explicitly evident in the curriculum documents. Eighty per cent (80%) of educators in the study also indicated that they might use culturally appropriate pedagogies in the classroom to teach.

However, they do not consider culturally appropriate and sensitive assessments because they are guided by institutional policies and guidelines that do not speak the language of the people involved, including prescribing examinations as the significant assessment method. Examinations consume most of their teaching life, including preparation, moderation, marking, and presenting to higher authorities. ATIs using competency-based assessment (CBA) methods also have assessment tools and learning outcomes prescribed by the regulatory body. All evaluations conducted using the CBA model must be evidence-based. Thus, outcomes specified in standards are primarily technical and robotic rather than compassionate. It is more concerned about developing currency and fit-for-purpose technical skills rather than creating character and soft skills.

The other reason assessments become subverted is over-rationalizing assessments. According to Insider Law, (n.d.) rational assessments are carried out by a competent person of the adequacy of a solution concerning requirements, including the process of reasoning, calculation, acceptable analytical principles based on research, data, deductions, appropriate testing, and service provision. Ahuvia et al., (2011) stated that Ritzer's theory of efficiency, calculability, predictability, and control can cause a greater risk of undercutting its purpose,

such as standardizing efficiency and convenience. For example, the learning outcomes are lessened to fit the timetable to keep the process manageable.

The number of learning outcomes in the sampled documents in the study ranged from one (1) to four (4) per unit. Some graduate outcomes and course content were labelled as learning outcomes. There is confusion about the differences between the latter mentioned above. Another example of rationalization is quantifying data and reducing quality data to numbers using rubrics. Numbers are used to tell stories because they appear clear-cut, objective, and scientific. This refers to calculability and predictability (Eubanks, 2021). Control is the last example of rationalization (Eubanks, 2021). Control is where faculties must complete a threshold of assessments to meet the pre-articulated computerized system requirements.

Interestingly, it was noted that most of the sampled curriculum documents studied had similar assessment methods for all the different units within the institutions. Efficient processes in institutions are established to save time, avoid extra work, and complete assessment obligations. This has implications for student learning because it's not measured learning but a data collection to determine graduation rates, employment statistics, and grades using exams, presentations, projects, etc. (Eubanks, 2021). In this study, as shown in chart one, most learners were only familiar with examinations, observations, third-party reporting, presentations, and interviews as the primary assessment methods used in ATIs'. This indicates that assessments in institutions are mainly conducted to verify the Ritzer model.

Thus, this study shows that the learners' cultural backgrounds and worldviews are not inclusive of the decision when designing the agricultural assessments in Fiji.

5.1.3 Hypothesis 3:

Are learners aware of culturally appropriate and culturally sensitive assessments? This study reveals that learners are not aware of culture being part of the education system. They were not aware that there are cultural pedagogies or assessments that can be used for teaching and learning. In fact, they could not associate culture with education. However, the educators were not surprised that cultural pedagogies exist and that they were aware of it. But they were not

sure about culturally appropriate or sensitive assessments. Some educators agreed that culturally appropriate and sensitive assessments should be used. But both learners and educators where not sure how learners could be part of the assessment determination for the course.

The discussions regarding culturally responsive assessments in literature and conferences have begun. In classrooms, much has been said, written, and practiced regarding culturally appropriate pedagogies, but assessments have always been treated as sensitive. It draws a peaceful silence whenever it is mentioned during discussions, and very little is discussed. Sometimes, I feel that talking about assessments may open Pandora's box. It seems to touch a sensitive part of people's lives, and they hesitate to discuss it.

This question aims to align the importance of culturally appropriate pedagogies to culturally relevant assessments. As mentioned earlier, the Biggs constructive model ensures that the outcomes, content, and assessment must align for maximum learning and learner achievement. This study is intended to ensure that outcomes, pedagogical approaches, and assessment methods must also align for maximum learning and learner readiness (Boud & Falchikov, 2006).

As a result, other questions arise regarding the standardization of assessments. The question also is, does the standardization of tests remove all variables? Especially if the variable concerns the learner's personal life, thoughts, and ways of doing and seeing things.

It was apparent during the study that fifty-four per cent of the respondents stated that they were aware of the ancient ways of doing assessments. Fifty per cent of the respondents indicated that they believed learner backgrounds must be considered when developing assessment tools. So, we can undoubtedly say that the learners are concerned about how they are assessed, and there are culturally appropriate ways to assess them.

Evans, (2021) in a Pacific webinar presented research that views learning from a sociocultural perspective to explain how students' individual, social, and cultural experiences shape the ways in which each individual views the world, mentioned that balanced and holistic assessments can improve equity and outcomes for learners as they meet the needs of the learners. According to

them, equity increases learners' opportunity to draw on their social and cultural literacies to complete their learning successfully.

In an earlier discussion in Chapter 2, it was noted that many Pacific academics focused on adopting and adapting culturally appropriate pedagogical and andragogical approaches to teaching to ensure equity in the transfer of knowledge or content. However, we fail to apply the same concept to assessments, determining the learner's success at the end of the learning cycle. This study suggests that learning activities should not be separated from achievement activities. They must also align or be balanced to ensure equity. We must not introduce foreign ways to impede learner's ways of knowing and doing. An assessment system must allow learners to demonstrate understanding within their cultural safety net (Lin, 2020; Watkins & Noble, 2022). In a multicultural or collectivist cultural environment, an educator may consider group approaches rather than focusing on individual knowledge houses (Lin, 2020; Watkins & Noble, 2022).

Thus, we can say that this hypothesis is accurate, and learners are aware of culturally appropriate and culturally competent assessments. If we go back and think about how we learn from our mother's model of seeing, doing, and saying, it is evident that learning can happen through culturally appropriate methods.

5.1.4 Hypothesis 4:

Agricultural-based educators capitalize on diversity as an asset to engage learners in the learning process. This study revealed that eighty per cent (80%) of the educators agreed to use culturally appropriate pedagogies in the classroom during the focus group discussion. However, culturally appropriate and sensitive assessment methods were never considered as part of their courses. However, all the participants agreed that cultural values and culturally appropriate assessment methods can possibly be used after a little bit of discussions and examples. The following is an example of a culturally sensitive issue that may affect a western setup.

An Indo-Fijian learner gets affected with chicken or smallpox and cannot attend school. The school is running its final standard examinations. In an Indo-Fijian culture with a Hindu background, going to the hospital is prohibited. Instead, one must stay home and take frequent

baths with turmeric water and neem leaves (*Azadirachta indica*). They are forbidden from taking medication, eating meat or fried foods, or using oil. They must sleep on clean sheets on the floor. The women of the house will use a brass utensil called a *lota* filled with turmeric water and flowers to remove negative energy by circling it around the person with smallpox or chicken pox. Ultimately, the disease will subside within three (3) days, and the person can go about normal daily activities.

However, because the affected learner could not go to the hospital, they could not get a sick sheet for their absence. Without a sick sheet, the school will not accept the learner, and the school system will not accept a religious explanation through letters from parents regarding their absence. Thus, the learner is unfairly treated because the policies regarding assessments and grading are not flexible and not learner friendly.

Thus, this study intends to look at an assessment framework that will be flexible, fair, and culturally competent/appropriate to allow for cultural consideration or be responsive to a learner-centered culture.

Involving learners in deciding the assessment methods will help the educator teach and assess from a position of mutual understanding and collaboration. Thus, avoid imposing traditional or western assessment methods that are unlikely to be effective. As the author of this study, I kept going back to what I have heard in my past 25 years of career. And that is creating a curriculum that meets the needs of learners, much less their cultural needs. Can we make a meaningful curriculum without considering the learner as a human being first? Don't we need to understand our learners first?

Using culturally appropriate assessments may not be sufficient for an educator. The reason is that many other factors, such as race, gender, ethnicity, age, sexual orientation, experience, etc., influence culture. For example, we may read literature and educate ourselves about a specific culture or worldview. However, this worldview is seen through different lenses by different people. Thus, we cannot assume that one size fits all. An eight-year-old sees things differently from a twenty-one-year-old because of the abovementioned factors. The experience is different; age, peer influence, gender, sexual orientation, etc., have many differences in how a person sees or does things.

Thus, we cannot make assumptions about culture based on what the literature says. Educators must first appreciate the differences in conducting culturally competent assessments. We must not believe in language standardization or culture appropriation to consider fairness because fairness means that the learner appreciates how they perceive their world. It means allowing the learner to be and do things in the way that is appropriate to them. It means allowing the learner to learn to see through their cultural lenses in their cultural context and not hide from it. We must put the learner first and not the assessment activity first. Being fair would mean preparing assessments to meet the learner's needs rather than preparing assessments to create cookie cutters.

Unfortunately, this study reveals that agricultural-based educators are yet to capitalize on diversity as an asset to engage learners in the learning process.

5.1.5 Hypothesis 5:

The agricultural curriculum is flexible, culturally inclusive of the learner's backgrounds, and encourages learning within diverse worldviews with sufficient teaching resources and assessment tools.

Inclusive teaching refers to recognizing and minimizing barriers to learner participation, while flexible learning refers to providing space or place for accommodating learner needs. Inclusive in this study is not limited to learners with special needs but goes far beyond this to define flexible learning pathways as entry and exit points at all ages and educational levels and the recognition and validation of knowledge and skills acquired through informal education (Kumari, 2017; Bolton et al., 2020; Martin, 2022).

Hence, this hypothesis is also null and void. The study found that some of the curriculum documents did not have provisions for inclusive or flexible learning.

5.2 Sampled Curriculum

This study noted that the agricultural curriculum in Fiji is quite flexible and inclusive. An analysis of sampled curriculum documents from the different Agricultural Training Institutions against outcomes, content, and assessments was done. The results showed that there were two

types of qualifications in Fiji: Provider qualifications and National qualifications. Provider qualifications were developed and accredited by universities. In contrast, national qualifications were unpacked from National standards set by the regulatory body, the Higher Education Commission, mandated under the Higher Education Act 2008. Provider qualifications consisted of course outlines or programme documents and separate assessments. In contrast, national qualifications comprised national standards unpacked into a course outline and assessment tool templates. The course outline and the assessment tools were combined to form the programme document.

Both types of qualifications had overall outcomes. However, the provider qualifications also had an individual topic and individual lesson learning outcomes instead of indicative course content as found in the national qualification documents. The national qualifications did not provide documents on the individual lessons or topics.

The national qualifications had evidence of the requirements stated in the unit standards. The provider qualifications only showed the assessments with no documentation on the marking rubrics. The provider qualifications had the assessment methods prescribed in the course outline. A minimum of three (3) methods were provided for each unit, and the range included observation, practical, assignment, and examination.

However, the national standards did not prescribe the assessment methods but provided evidence requirements in the national qualifications. The educators developed assessment tools based on the verbs contained in the evidence requirement. Thus, it allows educators to design their assessment methods. The ATIs using the national qualifications were provided with assessment tool templates to help design their assessment.

It was found that approximately eighty per cent (80%) of the sampled outcomes started with a verb and were achievable, doable, measurable, and timely. However, it was also found that twenty per cent of the sampled outcomes did not meet the abovementioned criteria. It was also found that eighty per cent (80%) of the sampled units did not or partially align with the outcomes, content, and assessments. This may be due to the inconsistency in meeting the criteria for setting specific, measurable, achievable, relevant, and timely or SMART outcomes.

SMART outcomes are set using the five "W" s and one "H" question. The following six questions must be answered:

1. Who is involved?
2. What do I want to achieve?
3. Where is it to be achieved?
4. When: do I want to achieve it?
5. Why achieve this?
6. How will I achieve this?

SMART outcomes have a set of criteria for measuring progress. If the questions listed above must be answered for a set of outcomes, then it will be difficult to achieve. Secondly, the content to be taught must be specific to the outcomes. It was noted that the content for eighty per cent (80%) of the sampled curriculum documents was less than or more than the set outcomes or objectives. The consequence is that achieving the targeted assessments becomes challenging. Thus, the learner finds the assessment difficult because they were not taught enough content. Too much content confuses the learner and wastes much of their learning time.

It was noted that twenty per cent of the sampled assessments did not meet the outcomes. The other sixty per cent partially met the outcomes, and only twenty per cent met the outcomes. Only one set of curriculum documents out of the five sampled curriculum documents was constructively aligned to the outcomes to the assessments. An exciting finding in one of the sampled curriculum documents was the mention of cultural and traditional knowledge. It was a short test question regarding how tradition or culture could challenge the assimilation of new skills and knowledge. This was not explicitly mentioned in the overall topic or outcomes but appeared in one of the assessments.

Thus, there may be times when cultural and tradition-based education is shared and discussed, but it is not made explicit. It was mentioned during the focus group discussions that educators include cultural teaching methods such as storytelling, going down to the student's level, leading by example, creating a better atmosphere, weaving through the learning cycle, self-realization, adaptive role modelling, and understanding the learners. However, seventy-five per cent (75%)

of the participants were unsure regarding culturally appropriate assessments. Twenty-five per cent (25%) said yes, and no one strongly disagreed.

We can assume that educators use flexible teaching methods, but assessments are prescribed as per the institution's policies (Davidson et al., 2009). The educator has limited jurisdiction over the type of assessments that could be used at their institutions.

Thus, we can disagree that the agricultural curriculum is flexible, culturally inclusive of the learner backgrounds, and encourages learning within diverse worldviews with sufficient teaching resources and assessment tools. This chapter will discuss the results from the programme documents and assessment methods used in higher education institutions. The purpose of the programme documents is to record the curriculum and support the learning process. A programme document consists of the following:

1. Learning requirements
2. Assessment methods
3. Learning activities
4. Learning resources

5.2.1 Findings on the curriculum documents in this study

The findings showed that all the agricultural training institutions in this study determined the assessments during the programme development by the educators. The learners are not involved in determining the types of assessment or how they can provide evidence of learning for the subject area. This means that the assessment methods and the assessment tools were all done before the learners are enrolled. Hence, the findings determined that the assessments carried out by ATIs may not be learner centered. The study also found that the coursework to examinations ratio is also determined by the educator, or the policies set by the ATIs. Some had a ratio of 60:40, some 50:50 and others 30:70. The educators were responsible for selecting the ratio and assessment methods for the courses they taught. There was no evidence of a curriculum framework in any institution under this study.

The study also revealed that assessments were predetermined, and learners accepted it without discussion because the mindset of the learners was that the educator knows more than the

learners, and they are the experts in setting the outcomes and assessments. Also, the institution policy is that the educators must ensure that the assessments are objective and kept confidential. Thus, it is not revealed unless the time is right. The questions that arise because of such behavior are:

1. How does a programme document become learner-centered without consulting the learner?
2. How is the assessment learner-centered without learner consultations?
3. How does the educator know that the outcomes and assessment methods are relevant, student-transformative, and inclusive?
4. How does the educator ensure that the learner's culture and background have been considered while developing the outcomes and the assessments?

5.3 Learning requirements

Knowing the learners as individuals provides an inclusive, respectful, and conducive environment for learning (Reachout, 2023). Providing a safe environment encourages learners to navigate through tough times and speak up or seek support.

This study revealed how learners felt intimidated when asked to do presentations. They said they felt shy and conscious about-facing crowds. When an educator researches the learner's interests or preferred ways of learning and includes them as learning activities, it builds trust. It shows the learners that an educator is genuinely interested in their lives (Reachout, 2023). It must not be assumed that a particular subject, sport, or endeavor is a learner's passion based on their marks. They must be encouraged to pursue their interests rather than being determined by a third party.

The programme documents are like a contract between the learner and the educator. All the programme documents studied from the four (4) Agricultural Training Institutions (ATI) were learner centered. However, my personal experience with programme documents is that they are meant for formalities only. It is given to the learners on their first day of class and referred to just before examinations. It serves more as a requirement rather than a working or talking document. The educator does not place much emphasis on the programme document contents. It is often left for the learner to read and understand it. Thus, the learner turns to the last page, looks at the assessments and the due dates, and the programme document also known as the

course outlines are either placed at the bottom of a of a pile of books or left in the classroom where they first met with their educator.

One of the ways that the educator could make the programme documents more exciting and valuable for the learners is by creating a working document by including activities and feedback. Including a rationale that helps the learner understand why they study the course or programme. Some activities may include the learner's perspectives and expectations of the course, types of assessments they are anticipating, and when it would be ideal for them to submit their proposed assessments. Having learners discuss with their group for group-based activities helps them work as a team. Giving the learners some time to discuss and provide feedback makes it exciting for them especially if they are allowed to chat in groups over social media. Timelines in a programme document help adult learners visualize when the course activities happen, thus assisting them in scheduling studies and work, or helping full-time learners organize the other units/modules/courses. When timelines and activities are set by the learners, they will feel more responsible and work towards meeting their goals.

Vinney, (2020) discusses the Triarchic Theory of Intelligence formulated by Robert J. Sternberg. Sternberg was a well-known psychologist who researched human intelligence and creativity and found three sub-categories of intelligence. The three subcategories include:

1. Contextual sub theory
2. Experiential sub theory
3. Componential sub theory

Contextual sub theory

The contextual sub-theory corresponds to practical intelligence. It refers to providing the right environment for a learner to function successfully (Vinney, 2020).

Experiential sub theory

The experiential sub-theory corresponds to creative intelligence. It refers to the ability of the learner to deal with novel or unexpected situations. Situations arise during an event you did not recognize or did not anticipate (Vinney, 2020).

Componential sub theory

The componential sub-theory refers to analytical intelligence. It refers to the ability to solve problems (Vinney, 2020).

5.3.1 Applying the Triarchic Theory

In 1985, Sternberg proposed the Triarchic theory as an alternative to the general intelligence factor or (g), (Vinney, 2020). Intelligence-based assessments such as tests and examinations measure academic intelligence. However, as Sternberg argued, measuring a learner's ability to react and adapt to the world and creativity are equally important.

McLoughlin et al., (2002) states that learner-centered programme documents positively affect Learner engagement and motivation for learning. The question is, how do the learner-centered programme documents differ from conventional or Educator-centered ones?

5.3.2 Using information and communication technologies (ICT)

Most Qualifications frameworks, including the Fiji Qualifications Framework (FQF), encourage the use of Information and Communications Technology (ICT). The FQF has five domains, and ICT is one of them. In today's world, digital literacy is becoming an essential skill (Rashid, 2024). From simple biometrics in ATM machines, to smart phones to storage in clouds, online forms, are requiring digital knowledge and skills (Rashid, 2024). Introducing digital literacy to learners will enable the educators to set the stage early in the course. It will enable the educators to discuss the importance of knowing and understanding the ethical use of technology to strengthen their critical thinking and problem-solving skills. It will provide them with the ability to navigate through digital platforms for the purpose of learning from experts, communicating and professional development. Likewise, the most important thing is to stay safe and ensure security of personal information. Thus, it would be helpful to put the programme document on an online platform for the learners to begin their experience of navigating through a schedule of activities compared to a 2-3 page black and white printout.

Including games and quizzes may create learners' interest in exploring the different parts of the programme document. An example of the programme document template is provided in Appendix 4, which is available on the Fiji Higher Education Commission Website.

The course outlines used by ATIs provided learners with summarized information regarding the whole programme. It provided limited guidance on weekly or daily teaching and learning. The programme documents must give the learners detailed information on the modules/courses/units/unit standards. It was found that the course outlines used by the Higher Education Institutions in this study provided less information than a programme document is defined to provide. Overall, the course outlines consisted of name of the qualification, credits, a description, objectives of the qualifications, list of units/unit standards, list of assessments and their weightings. One out of three course outlines also had the breakdown by weeks.

5.4 Appropriate course outline

In an inclusive and transparent education system, the programme documents and the lesson plans with complete details are provided to the learner. The programme details are like a work contract, where the scope of work and responsibilities are clearly stated. The contract includes information on the limits and penalties of the worker; thus, a programme document must also represent a contract between the learner and the institution. Afterall, the learner pays for the services.

The lesson plans must have a clear shared vision. The problem-solving rationale model is often effective for skills-based education. In this problem-solution model, the rationale is developed from a solution for an issue or problem requiring attention or solution/s. Hence, the educator needs access to the learners' profiles to determine the likely situations that may require addressing apart from the technical issues of the subject matter, for example, literacy and numeracy, designing, problem-solving, critical thinking, etcetera. To develop learner centered lesson plans, an educator must consider the learners' cultural backgrounds while designing the learning activities and assessments.

5.4.1 Why develop Learner-centered programme documents?

Learner-centered programme documents begin with measurable objectives. The objectives must lead to higher order thinking and skills. For this study, we will consider Bloom’s t5xonomy as the guiding framework for the different levels of thinking associated with skills and competencies. My experience with many stakeholders in the education system believe the lower-order domains of Bloom’s taxonomy are for the lower-level qualifications and lower primary and secondary. This lack of understanding of the use of Bloom’s taxonomy is serious. There is a need to increase knowledge on the development of objectives and the use of the

Blooms taxonomy correctly. The higher order skills must be developed from a young age. It does not mean bringing the secondary school to primary, but to develop these skills from their own levels of education. There is a need to understand that all the domains from Bloom's taxonomy are applicable at all levels of education. While education is a pathway, learning at each level is different and at different complex levels. When learners think critically, they construct knowledge through inquiring, exploring, and thinking to solve real-world problems.

Chart 17: Learning at different certificate levels for a similar objective

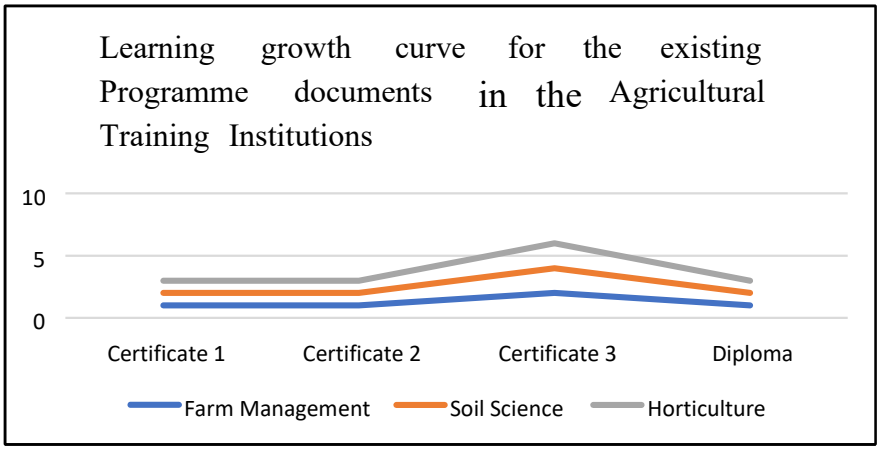


Chart 17 shows a stagnated growth in learning a learner's journey from certificate one to diploma for the same concept. It shows a static learning trend, almost going up and then no growth. Learning objectives should reflect an exponential curve as they progress from lower to higher levels of qualification, which would mean growth in learning.

Creating new knowledge from existing ideas and information relies on critical thinking and active learning. Thus, learners at all levels must be exposed to this domain as early as possible. For example, if the educator is to teach about soil profile at Certificate level 1, the indicative course content may range from the following:

a. Definition

b. Types of profiles

c. Parts of the soil profile

d. Development of the soil profile

e. Characteristics of the different levels in the profile

f. The naming of the soils based on the profile

The course content mentioned above does not prepare the learner for the higher-order domains in Bloom's Taxonomy. This happens many times for various reasons, but mainly because:

i. The educator's focus is examination-based, mainly knowledge and understanding.
ii. The misunderstanding is that the higher-order domains apply to higher qualification levels only.

The level of application, analysis, evaluation of information and creation of new knowledge depends on the learner's past and classroom experience. The learner must be exposed to all domains in Bloom's taxonomy for a total learning experience. Thus, the indicative course content must include teaching and learning activities related to the other domains. Let us look at some examples from the programme documents in this study:

Example 1 - List the types of soil.

These types of questions were found as objectives and tests questions in this study. The main objective of these types of objectives and test questions or activities only promote cognitive and basic learning. It does not provide a space for creative thinking or learning problem solving. A simple lecture or reading material can be used to disseminate basic knowledge on the types of soil obtained from books and online search engines. When developing objectives, the educator must think about the impact that the objective will have on the learning and job readiness. The objectives must also take into consideration character building of the learner. Will it promote thinking, problem solving skills, social skills, humbleness, leadership, and the list goes on.

It was found that the educator teaches each soil type and discusses it at length, showing pictures taken from the different sources. Most of this information is readily available in books and search engines. The photos and examples used were mainly from other countries which did not help the learner to understand the local knowledge and context. Basic knowledge can be obtained by anyone from reading books and using search engines.

However, to make learning more transformative, objectives must be designed such that the learner can add new knowledge, apply the new knowledge to solve a problem or create new knowledge for improved services or products. This type of listing objectives will only add to

the existing knowledge or maybe repeat the same knowledge learnt in the past or verify known knowledge.

Does this mean that the institutions must have in place a guided document in the form of a curriculum framework to determine the knowledge gained at each level. The national curriculum framework can guide learning from early childhood education to higher education. This will enable the learners to increase their knowledge as they journey from a lower level to the highest level found in the Fiji National Qualifications Framework (Appendix 1). It will also help reduce duplication of the same knowledge level after level and help in the growth of the learning curve rather than being a static line of learning, where only the learner moves from year to year, but the knowledge gain remains stagnant. The following example is taken from a combination of programme documents from an ATI study that shows how knowledge grows or stagnates from the programme documents studied.

The objectives must also relate to the learner regarding context, application, and action. In terms of action, it is mainly determined by the verb. The verb determines the domain it falls in:

1. Cognitive
2. Psychomotor
3. Attitude

Cognitive-based verbs are primarily used to gain, verify, or repeat knowledge. It is mainly a recall or memorize type of learning, where the educator may provide or facilitate the learning through lectures, reading, repeating, and writing.

Psychomotor-based verbs are action verbs; learning is done using your hands or legs. It is where the learned information is converted into skilled knowledge. The learner is required to do, say, or write to show an understanding of the concept. The educator will demonstrate learning, and the learner will be required to do the same. Learning happens through observation and doing.

Attitude-based verbs are primarily taught through the appreciation and acknowledgement of learning. An educator will always teach and assess the learning for attitude because the primary measure of learning happens when the learner appreciates the new learning or acknowledges the differences between what exists and what could be done differently. The learner doesn't need to be wrong always. It could also mean that the learner appreciates their beliefs and ways

of doing things. Transformative learning is when the learner moves up from where they initially started. Verbs such as listing and discussing, providing alternative solutions, debating pros and cons or storytelling are various ways educators teach values and attitudes. However, most of the programme documents in this study lacked psychomotor-based objectives. Assessments were often found on practical work but not as part of the objectives.

In constructive alignment, the objectives must align with the content, assessment, and vice-versa. However, practical were done with no aligned objective. It was done and assessed. There was a considerable mismatch between objectives and assessments. Educators could not agree that practical is a teaching tool and can be used as an assessment tool. Most practical were carried out during tutorials and learners would be assessed at the end of the whole project compared to being assessed at every step. This is not fair on learners, because it can be subjective, and the assessor could always forget. The more learners and the more the delay in marking the more chances that the marking will not be fair.

It was noted that the total number of objectives in a few programme documents was a maximum of four objectives for 120 credits. They start with simple verbs such as those listed below:

1. Describe some basic xxxxx
2. Describe importance xxxxx
3. Describe xxxxx
4. Describe various xxxxx

The whole course for 120 credits was to describe four aspects of the subject matter. If we look at Bloom's taxonomy below, we find that describe is a lower level - knowledge-based verb. We note that the course content, practical, and assessments cover more than what is stated in the four objectives, which means that the objectives are insufficient. They were not reflective of the course content and the real objectives for the course. Hence, the assessments could not be aligned to the objectives. The objectives did not serve to guide or prepare the learners in the correct direction of learning; hence, they found the assessments boring or difficult.

It was also reflected during the focus group discussions that the educators were advised to have a maximum of only four objectives per course outline. The policies must be designed to guide the educators in the right direction and give the maximum benefit of learning to the learners.

Hence, there must be a guiding framework for the development of curriculum and assessments at a national or organizational level. The organizational level will ensure that the curriculum and assessments can be guided to ensure a growing learning curve. The national framework will ensure that the curriculum and assessments are aligned to the needs of the nation and a measure to ensure that consistent graduates are produced across institutions. The two (2) frameworks will assist in the monitoring and reviewing of the course documents.

5.9 Using Bloom's taxonomy to develop objectives

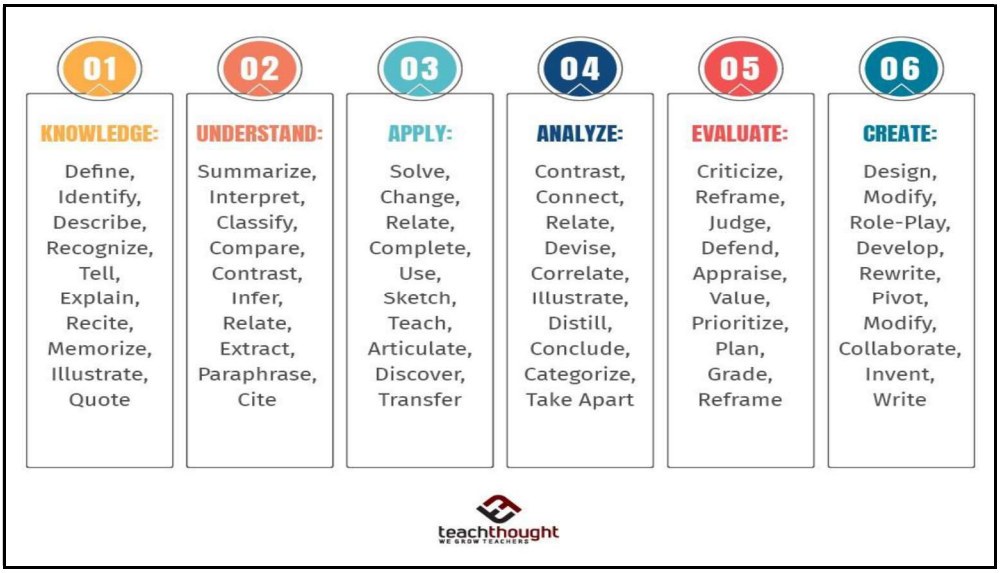


Figure 27: Verbs in Bloom's Taxonomy. Source: TeachthoughtStaff, (2018)

The four objectives above do not help develop deep learning in the learners. Learning must happen within the cognitive, affective, and psychomotor domains. In simple terms, the learner begins with knowing, understanding, and applying their learning. However, it is not explicitly shown in the objectives, but we could find them within the document.

The ATIs need to align their programme documents to reflect constructive alignment both ways, top down and vice versa. The content and the assessments are reflected in the objectives and vice versa. Hence, there is a need for capacity building for the educators or a mandatory requirement for educator training institutions to train the graduates in learning how to ensure alignment and construction of good programme documents. Good objectives will help in the development of good assessments and pedagogies.

Objectives must also be contextual. Contextual means that the learner develops an understanding of an event, idea, or statement regarding their experiences or circumstances. When learners can make sense of learning, they can use learning better in problem-solving, creating new knowledge, and thinking critically.

Osika et al., (2022) suggests that the contextualization of learning provides a seamless transition from higher education and training to the world of work. When talking about contextual teaching, we also talk about learning approaches.

In Pedagogical Theory Approach and Techniques, Bhasin (2021) states that learning processes worldwide are directly linked with pedagogy. Pedagogy refers to the methods and practices to impart learning. From time to eternity, knowledge and skills have passed over through observation and recitals from generation to generation. Hence, education has always been the source of survival.

Learning takes place regardless of the setting. Bhasin (2021) affirms that learning depends on how the content or knowledge is imparted. It takes all five senses for the brain to make sense or make meaning. Thus, the learning methods must be planned to activate retention and understanding.

Learner-centered learning methods consider the differential learning abilities of learners. Sewagegn and Daille (2020) maintain that graduates from higher education institutions should be creative, proficient, and problem solvers in their fields. Hence, educators must design their sessions using the correct teaching methodology implemented correctly. Teaching and learning are moving towards more creative, competent, student-oriented, and active learning methodologies. The traditional method (lecture) is inadequate to prepare learners for the real world of work (Sewagegn & Dialle, 2020). Active learning is an innovative model. It includes high quality, shared, participatory and motivational education activities. Active learning aims to increase higher order thinking and not just passive listening.

This study also revealed that learners prefer role plays, practical and presentations over lectures. However, they also mentioned a need for a more structured way of conducting roleplay, practical and presentation. They found it exciting but challenging at the same time. Hence, active learning methods must be part of educator training programmes and available as short

courses for refresher training for educators who went through educator training many years ago. Currently, there is no standard system for upgrading educators.

According to Andriotis, (2017), contextual learning activities and the pedagogical body of knowledge must align. Pedagogy is an educational action or systematic view and reflects pedagogic practice on how to educate. It also relates to what it means to be educated. Pedagogy is the theory, method, and philosophy of teaching. In the 1800s, pedagogy was much about behaviorism, where the educator would be in total control of the classroom, and reinforcement was the best way of learning. Today, reinforcement not only encourages but guides the learners as well. However, the behaviorist model of pedagogy limits the learners' individualistic (critical) thinking and independence (self-expression). If learning is limited to the ambits of the Educator and their decision, it may compromise tailor-made training to meet the needs of the learners. Educator-based training plans consider objectives that meet the needs of the course outline and the industry but overlook the inspiration and goals of the learner. It may be done so thoroughly that the learner is wholly removed from the transaction, and teaching and learning become abstract and foreign to the learner. This was evident during this study when the learners indicated they were not educated enough to set goals or objectives because they lacked experience.

During the focus group discussions, the educators agreed that they were the ones who set the objectives for the course without consulting the learners, and some even agreed that they did not consult the industry or stakeholders. Hence, objectives turned out to be dry and insensitive for the diverse learners. I have been part of many forums where the stakeholders have revealed their disappointments with the quality of graduates produced by higher education institutions. They mentioned that they had to retrain their recruits to do basic skills that are expected from graduates, especially when it comes to soft skills. This is an added cost and a waste of time for employers. They were not forgetting the value of money and the time spent studying for employment.

Liberated classrooms put learners at the centre of learning. The design provides a level playing field for making learning accessible and tailored for individual learners. All learners have differing characteristics and must be allowed to grow in an environment that supports their growth and maturity, including emotional, intellectual, and social. When educators become the givers of knowledge and not facilitators of learning, it impedes the learners' search for information and answers, which is an integral part of the learning process. Most pedagogies

encourage the understanding and application of an educator's thoughts to a subject or concept. However, in the 21st century, education should create critical thinkers who can apply various skills and attributes to various concepts and situations (Stauffer, 2022).

The education system in Fiji is heavily towards examination-based assessments. The higher education institutions are not any different. This study shows that the primary assessment methods the learners were aware of were mainly examinations. The focus group also revealed that the examinations were their primary assessment tool. One of the agricultural training institutions in this study revealed that examinations were the most critical part of the academic calendar, and lots of effort was put into getting them done.

Hence, the learning outcomes are usually designed to be assessed through examinations. The pressure from the authorities on examinations and the results limits educators from thinking outside the box. However, some educators were concerned about 21st-century critical thinking and problem-solving skills. Their concern was being unable to teach and assess such skills that are so important for industries and employers today. This was especially true for practical subjects where problems are hands-on and contextual, meaning they could differ from case to case. Educators also needed to prepare learners for critical thinking, and it became challenging for Them to demonstrate using practical or real-time examples. Most educators said they encouraged the learners to ask questions and do self-reflections.

Since these skills were not explicit in the outcomes, educators and learners alike would not be worried about teaching or learning these skills. For lifelong learning for such skills, learners must be able to use their innate intelligence and develop the ability to reason and understand (Stauffer, 2022).

Learners who cannot embrace their innate intelligence must depend on the educator's understanding and explanation of the subject or concept. It also encourages the learners to decipher the subject matter from the educator's understanding or explanation. Hence, learners cannot extract from their intellect and break down the barriers of inequity to learning.

Learners must be allowed to think and develop their learnings or understanding within their context to become emancipated learners. When learners are free to think, they develop the ability to identify what they are learning, analyze it, and apply it or use it to create new knowledge. Another approach for emancipating learners is implementing strategies that allow

learners to use their culture and understanding in learning. The idea behind culturally relevant pedagogy (CRP) or culturally relevant teaching is a widely discussed subject. However, it has not become a reality in many of Fiji's schools and higher education institutions. This study defines culture (chapter one) as the learner's environmental experience from family, community, and society. We are the product of these relationships, and we perceive through the lenses of our worldview/s. A learner's identity equates to their values, perceptions, and norms. It comes to life as the person deems appropriate for the situation.

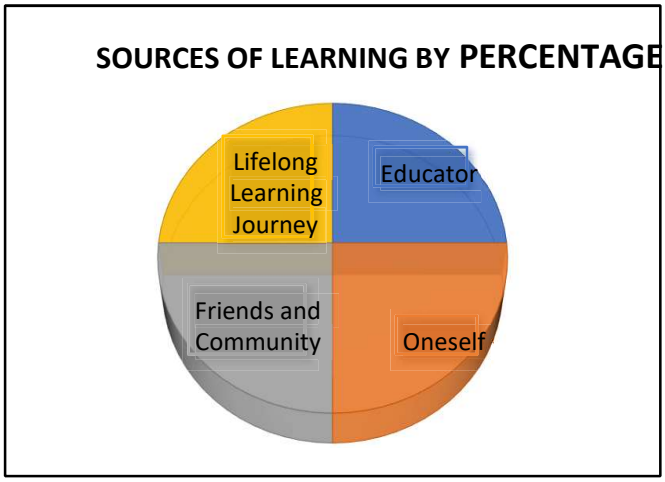
Using culture-relevant pedagogies (CRP) boosts self-esteem and self-confidence (Stauffer, 2022). CRP helps to initiate discussions on sensitive issues such as gender, ethnicity, race, religion, culture, and politics with empathy. It also means that the educators are responsible for including the learners' families and communities.

5.5 Real-world application

Confucius was a Chinese philosopher who once said, I hear, I forget, I see, I remember, I do, and I understand. Hence, experiential, or real-world training is learning by doing. Shorter product and service lifecycles and fast turnaround times characterize today’s businesses and industries. Traditionally, more extended classroom-based training would produce work-ready graduates who can immediately fail to perform on the job and require retraining. The new model promotes experiential learning, such as on-the job or simulated training methods that may prompt immediate failure. However, it is followed up with immediate remedial training by practicing the skills they need for self-improvement.

This takes us back to our ancestral days of learning about on-the-job and hands-on training. Let me share a story on the Hindu thought regarding real-time learning. According to Suresha (2021) education in the Hindu thought philosophy is from the soul and is learner centered. Learning is meant to be a hundred per cent (100%). The first quarter, or twenty-five per cent (25%), is learned from the educator, one learns the next twenty-five per cent, and the third is learned from friends and the community. The last quarter comes from the lifelong journey of the soul, starting from the womb to the next womb.

Chart 18: Sources of learning by percentage



The are four (4) different stages of education (Suresha, 2021), which are as follows:

1. *Adhishilam - Trust (shradhabalam) – this education is gained from parents, family and community built on trust.*
2. *Adhichitam - Retention (Medhabalam) – absorption of knowledge and skills.*
3. *Adhikprshiksham - Analysis (Pragyabalam) – questioning the knowledge and skills for facts and accuracy.*
4. *Adhikpratibham - Creativity and Innovation (Pratibhabalam)– making positive conclusions from the knowledge and skills.*

According to Tambat, (2013) Hindu thought or philosophy states that learning cannot be taught, however; anything can be learned. This means that the responsibility for learning falls on the shoulders of the learner. Hence, it is the learner who should determine the ways and strategies that will assist in their learning process. The role of an educator and the institution is to facilitate the resources and environment conducive for learning. It also means that the learner must be the centre of all efforts to transfer knowledge and skills.

The following table 27 shows the differences between an ancient Gurukul and a modern school have been adapted from (Tambat, 2013):

Table 28: Comparison between a Vedic Gurukul and a Modern School

Vedic Gurukul	Modern School
1. Society runs it.	1. It is run by the Government and private sectors.
2. Education was free.	2. It has become a lucrative business.
3. The individual is concerned with society.	3. Individuals are delinked by society.
4. Lifelong learning.	4. Learning is becoming a burden.
5. Learning was the central focus.	5. Pedagogy is the focus.
6. Continuous, informal, or periodic assessments.	6. The pressure of examinations as assessments.
7. Values education is part of learning and the Learner.	7. Values education is taught but not implemented.
8. Encourages personal growth.	8. Learning of data.
9. Competency-based education.	9. Curriculum-based education.

One of the main principles of an educator is that of a guide on the side and not a sage on the stage. The role of the educator is that of a facilitator and not the holder of all the learning. The following are the four major methodologies of learning in the Hindu philosophy (Suresha, 2021):

- *Veda-adhigama vidhi – method of studying Vedas or holy books. We can refer to encyclopedias, papers, scientific journals, etc. in the modern world.*
- *Pramana – learning based on or from evidence/s. Learnt using senses, objectives, research, and experiments.*
- *Sastra-adhigama vidhi – learning tools such as questioning (Prasna vidhi), corrections (Vartika vidhi), discussions (Bhasya vidhi), debates (Vada vidhi), case studies (Katha vidhi), examples (Kavya vidhi), way of life (Kosa vidhi), storytelling (Vyakhyana vidhi), etcetera.*
- *Vyavahara vidhi – learning in real-life situations. The tools include doing (Abhyasa), imitation (Anukarana), observation (Avalokana), play (Krida), nature (Pratrtika), expanding or sharing knowledge (Prachara), travelling (Pravasa), narrated (Prayoga), understudying (Sahavasa), communication (Samvada), service (Seva), initiation (Tapo, Upadesa, Vinimaya).*

An educator may use any of the methods above or more to design their learners' learning. These methods will enable educators to shift from pedagogies to learning methodologies for learners

that can assist in their growth. Thus, the curriculum must be developed to reflect more learning methodologies for learners rather than pedagogies.

5.5.1 Specificity

Experience in the professional world assists in the seamless transfer from higher education to the world of work. Organizations have their ways of training and implementing experiential learning strategies. Thus, it is crucial to tailor the teaching and learning methods to suit learners with multiple backgrounds. Some methods that can be used include simulations, case studies, role plays, sensitivity training, and gaming and on-job training.

- Simulations: this method uses electronic, mechanical, or software-based activities to simulate a real-world situation. The learner must react to the situation. For example, learning a job for pilots is risky. Thus, the institutions use simulators that provide the same reaction it would in an actual situation and the learner reacts to the given scenario without endangering anyone's life. The advantage of simulations is that training on the most remote hypothetical scenario can be provided.
- Case Studies: These are examples of past learnings on real-world situations provided by educators and given an insight into appropriate behaviour to deal with a similar situation. Learners can analyze it critically, discuss the advantages and disadvantages of the solutions provided, or provide alternative solutions or better ways of solving the problem in their context. It also provides an opportunity to discuss the situation and understand why the people behaved the way they did, rather than stereotyping based on gender, religion, or race.
- Role-Playing: this training method is designed to teach learners to prepare for a specific situation. For example, training for different customer moods. The role-plays help prepare learners to use the policies and procedures to deal with the different situations they may face during a real-life situation.
- Sensitivity Training: This training trains graduates on teamwork and work culture. Usually, such training methods are used to support work-based ethics and develop values. It enables workers and peers to equip themselves with skills and knowledge to deal with others around them more appropriately. Such training methods are essential to discuss sensitive issues and develop soft skills in learners. It helps learners enhance self-awareness and build confidence.

- Gaming: Including games as a teaching method helps to encourage and keep them engaged and teaches a sense of collaboration or competition similar to real-world situations. Points and merit badges can be included to make this technique more motivational.
- On-Job Training: The most realistic method of training method is On-Job Training. Learners are exposed to genuine customers, peers, supervisors, products, and services.

5.6 Developing objectives to meet cultural alignment

Education for youth and workers today is not something they would like to invest too much time in. They are inclined towards digital learning and are more device oriented. They prefer flexible hours, increased mobility and earning while schooling. When interested in a topic or subject, they prefer the search engine to books or written materials. They are more into visuals and real time learning compared to philosophy. Hence, teaching and learning methods must suit the new generation of learners. Speed learning methods include rapid eLearning, blended learning, and mobile learning. The learning methods mentioned above provide a faster turnaround time, reduced costs, easy to update and maintain, real-world practice, collaborative learning, greater flexibility, improved knowledge retention and increased learner motivation (Pappas et al., 2019).

5.6.1 Developing culturally appropriate objectives

Example 1 - Dig and identify the type of soil profile that exists in your area.

This objective allows the learners to use their skills and get hands-on experience identifying soil profile layering. They can observe the environment resulting from the soil profile they studied. It will assist the Learner in making a comparative study between profiles if the educator takes the initiative of exposing them to more than one type of profile. It broadens the knowledge for the learner to make decisions in the higher-order domains.

Meeting and consulting the farmers and the people in that area also helps the learner observe how the people manage the soil type for their different activities. This will help the learner to build their communication skills and help the learner to understand people's behavior. Hence assisting the learners in enhancing their cultural and consultative skills.

Example 2 - What causes changes to the properties of the different layers in the soil profile, and how could the farmers use the different available materials to change the soil profile to their advantage?

The learner can now evaluate for further actions based on the information collected from the previous activity and desktop research. So, at level 1, the learner is exposed to research and evaluation to enable problem-solving. This type of activity assists in the development of problem-solving skills. When learners can apply a learning activity to practical value, relevance is established. Lectures to teach and examinations to assess such learning are not conducive for the learner because they are beyond recall and comprehension. The learners must be taught specialized skills in community consultations, cultural respect, evaluation, and problem-solving and decision-making skills. Experiential learning, case studies and problem-based activities bring learners closer to real-world scenarios. The idea is to get the learners to build on their existing knowledge and skills to analyze the issues and find solutions.

Example 3 - What are the implications of changing the soil profile on the environment?
This example shows how outcomes can be insufficient for the learners to find solutions to problems. They must understand that solutions must be conducive to the environment and acceptable to the people. Thus, the learners must inculcate in themselves the value of evaluation. They should be able to reflect and review the consequences of the change or solution on the people and their environment. Thus, the learning activities and assessments must suffice such learning. For example, reflections, reviews, forums, scenario-based, real-world experiences, digital storytelling, debriefs, and presentations help to develop learners' confidence and ability to consult people for decision-making. It creates high-order values such as tolerance, humility, patience, and respect for self and others.

Example 4 - Write a small proposal on behalf of the people in your community to address the drainage issue in your area (for example) to the Fiji Development Bank to seek funding to purchase materials. The proposal must include an environmental impact assessment carried out by the Learner and an agreement from the community on this project.

Outcomes shown in example four show a complete learning and assessment activity which helps the learner develop writing skills, formal writing, proposal writing, creating new

information or ideas and the ability to support the idea or initiative. The learner must think critically about the people they need to consult, the value of the idea or initiative, impact assessments, cultural values and behavior of people, funding requirements and socioeconomic and cultural significance of the decision.

Hence, learning outcomes must be designed such that it leads the learners towards critical thinking, creativity, problem solving and allowing them to the freedom to include their own community and cultural ways of doing things, understanding their own people and finally contributing towards the national growth and prosperity rather than competing for selfish growth.

5.7 Designing contextual learning activities

The educator must also design learning strategies/activities for the above contextual learning objectives to suit the learners. Firstly, contextual learning strategies include knowledge-based, skills-based or cognitive-based (ClickLearn, 2023). When designing learning strategies, the educator must remember that it is appropriate for the learners. However, it was noted that educators' learning strategies primarily used in this study were presentations, practical, and power point-based lectures. Most learners were uncomfortable with the presentation as a learning strategy. Agriculture is a practical subject; thus, it requires many demonstrations and skills-based learning. Thus, having a timetable showing hours and hours of lectures may not be an appropriate learning strategy for effectively transferring knowledge for skills-based objectives. The learners also mentioned that they were uncomfortable with presentations as a method of assessment could also mean that they may find lectures challenging to understand. One reason would be that lectures are not personalized for any learner. It is prepared for the ease of the educator to pass knowledge. It is not Learner-Centered because the learner's background is not considered when preparing such learning strategies.

Secondly, effective learning strategies must be designed to teach procedures, processes, and discipline how and when to apply the skills and knowledge (Paraskevaidis & Andriotis, 2017). It must also consider the context in which it is applied. Hence, the learning strategy must be designed to achieve this goal. It is not a matter of learning the skill but adapting to any given context; thus, it must include problem-solving and critical thinking skills that will enable them to apply the knowledge and skill in a new context.

Thirdly, it will help to transfer knowledge, skills, and experience to a new environment. This transfer may include horizontal, lateral, or external transfers such as promotions to the next academic year, another learning unit, or workplace attachment. Thus, learning strategies must be designed to assist learners in adapting and transferring knowledge and skills to new environments or workplaces. This is how we can prepare for work-ready graduates. Applying the knowledge and skills learned in a simulated classroom to a workplace. Many times, especially at the Higher Education Forum held at the Sofitel Nadi on 19 July 2022, the industries commented that the graduates were not work-ready. They had to retrain them for even basic skills. Accountants revealed that graduates did not know the simple skills required to complete tax returns. Carpenters said the learners had punctuality issues and did not know how to use tools properly. The Ministry of Agriculture stated that the graduates could not demonstrate simple skills at the workplace, including fencing, and writing reports.

Fourth, the classrooms in Fiji are multiethnic or multicultural and have differing social backgrounds. Therefore, these factors must be considered when designing learning strategies. For example, when designing group work or paired activities, the educator must consider that male and female pairing is inappropriate in some cultures. Group work must be considered for inappropriateness, such as grouping according to IQ levels, females, males, race, religion, caste, or social background (Godek 2004). Sometimes, educators leave it to the learners to decide their groupings, resulting in inappropriate groupings. Hence, when the educator designs such learning activities, they must be thoroughly planned, from who will be in the groups to how the groups will resolve inappropriate actions or behaviors. They must be trained to work together and encouraged for teamwork-based success. Group work mimics a real-world workplace where the learner must work with other workers, management teams, supervisors, and customers. Thus, designing such learning activities helps learners build interactive behavior.

Fifthly, the designing of assessments must be contextualized learning. Assessment must evaluate a learner's ability to apply their knowledge and skills to real-world tasks rather than their ability to remember or superficial performance of an activity (Paraskevaidis & Andriotis, 2017). This study revealed that most programme documents focused on examinations as the primary mode of assessment. Learners revealed that most of their study time was spent recalling for examinations. Yet others found presentation hard to do because of their inability to speak in front of other learners. Some found it practical to be physical and too demanding. It caused injuries and fatigue. When this issue was discussed with educators, they said that the learners

carry out the practical under the guidance of farm support staff or demonstrators. It was noted that many farm support staff were not licensed educators or had relevant qualifications. It was also noted that learners were unprepared for assessment methods such as presentations, practical, simulations, or roleplays. These were never used as learning activities. Hence, the result was that the learners would be assessed using methods that they were either uncomfortable or unprepared. For example, presentations were biased toward confident learners who could speak well in public. The weaker ones would perform less.

Similarly, more physical learners would do better at unsupervised garden-making. The weaker ones usually produced a lower standard of gardens, thus losing marks. I am saying that the activity's objectives must be apparent from the start. Marking learners based on subjective observation unjustly or unfairly treats learners.

5.8 Learner-centered programme documents

Learner-centered learning methods must consider the differential learning abilities of learners. Such learning methods ensure that the learner has a more active role than the educator, and they take ownership of their learning. The following learning pyramid shows the retention rates of the various learning methods:

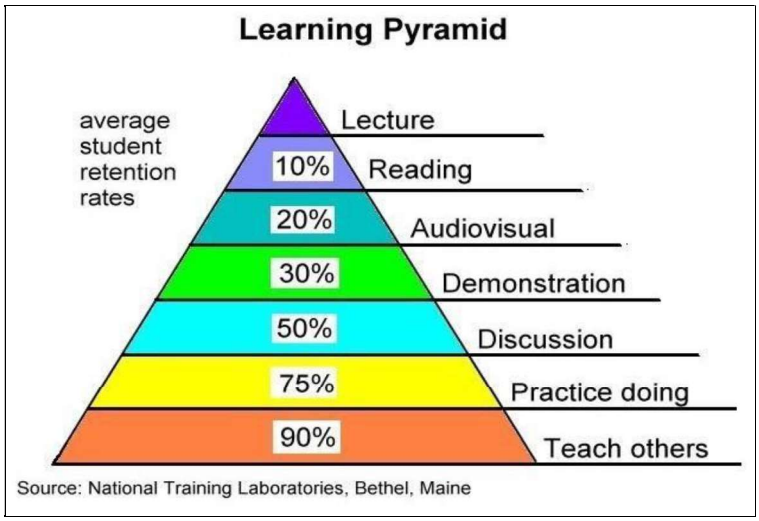


Figure 28: Learning Pyramid. Source: (Beausoleil-Morrison & Hopfe, 2016)

This study found that all the educators used the lecture method of teaching and learning. The lecture hours ranged from 1 to 3 hours per unit, and each learner would be enrolled in a

minimum of four (4) units, meaning that a learner would be spending twelve (12) hours of passive listening weekly. Hence, forty per cent (40%) of the effort by the educators and learners only contributed to less than ten per cent (10%) of knowledge retention. The learning methods with higher retention rates, including discussions and peer teaching, were not preferred in most ATIs. However, 3 ATIs were found to be used practically as a primary teaching and learning method. Three of the ATIs used eighty per cent (80%) of the learning time in practical. These ATIs also used competency-based training and assessment models, and National Qualifications. Most of the outcomes or competencies use action words in the National Qualifications. However, we must be careful not to start producing cookie cutters rather than human beings with feelings, emotions, and values. Learning can be broken down into seven principles. The following principles were outlined by the University of Queensland in Australia:

5.8.1 Learning as becoming

A primary reason for higher education for many learners is to get employed. Hence, the challenge for the ATIs is to transform knowledge into a sense of self and being. Higher education is often about acquiring knowledge that hardly leaves room for understanding the broader philosophical implications of one's life. The self-identity of the learners also transforms as they become professionals and lifelong learners. According to Osika et al., (2022) learners must acquire and integrate knowledge and skills, build creative and critical thinking capacity, and link learning and thoughts to the real world.

One of the ways of getting the learners to help develop a transformed self-identity is to build the characteristic of self-reflection. Self-reflection helps the learner to explore their beliefs, assumptions, interactions with others, perceptions, and behavior.

Another example is having learners relate their learnings to their community issues. Also included in this teaching and learning method would be the skills to disseminate these learnings to the public. To do this, the learner must first understand the community's way of doing things and how they could adopt a change. Secondly, the learner must also be able to react to advances in the field of study in the most relevant manner. The ability to think critically and understand the community will help the learner succeed.

5.8.2 Contextual learning

Contextualized teaching and learning prepare the learners for the real world. Agricultural education provides a lot of new knowledge and skills to the learners that they are either unaware of or are new knowledge (invention). Thus, the learners must be taught to seamlessly transfer knowledge and skills from the world of education to the world of work. This is possible if the learner can think critically about the assumed and pervasive knowledge in the community and the best way to change this into newer ways of doing things. For example, using new varieties with better yields, improved, machinery, land management practices such as contouring or terracing, etcetera. Such skills must be practiced at the ATIs for the learners to have a firsthand experience and see the relevancy. An experience of seeing the difference makes a lifetime impact on the learner, and they never forget. It also creates the confidence to use or try innovations and advances in their work field.

5.8.3 Emotions and learning

Emotions can enhance or interfere with learning. Osika et al., (2022) believe emotions can be robust tools for effective learning. Positive emotions such as interest, curiosity, passion, creativity, joy, and engagement support retention better. It helps broaden learner perspectives, see alternatives, overcome challenges, and respond effectively to criticisms and failures. Motivation is a precious tool for effective and lifelong learning. It provides a solid base for achieving learning objectives.

On the other hand, negative emotions can be a challenge to effective learning. For example, when learners fear failure, low motivation, or disengagement due to the stress of examinations, their retention ability is affected. Consequently, they do not perform well at the end of the day. Their fear became a hurdle to their success. However, confusion may be a powerful tool to encourage learning.

Teaching and learning methods such as group work, quizzes, practical and discussions allow active learning and are essential to balance emotions. Learners' active interaction with others helps to overcome fear and stress, while individualism may trigger further emotional stress.

A vital character to build is teamwork because the graduates would work with other people with different positions and roles. Allowing learners to learn in groups helps to develop interactive skills such as social, verbal, and written communication skills.

5.8.4 Learning challenges and difficulty

Impasses or disagreements are an essential part of any class. This must be appropriately resolved to produce a beneficial learning experience and lead to deep learning. Learners become disengaged if they are continuously frustrated and bored. Impasses or disagreements must be well articulated in learning using problem-solving tools, including case studies, storytelling, debates, project-based learning, etc.

Designing complex, inappropriate, and strenuous learning activities and assessments may also become challenging. This study noted that learners found presentations difficult because they felt shy and not confident to talk in front of an audience. Hence, they could not perform well in their assessments. It shows that the educators are not flexible in changing the assessments or compassionate about learner difficulties.

5.8.5 Learning to learn and higher-order thinking

When designing teaching and learning, an important consideration is to use methods that promote critical thinking and problem-solving skills. These are essential values and characteristics that employers look forward to in graduates. The choice of methods is critical in the effective development of these skills.

Often, learners enter higher education from a well-supported and scaffolded formal environment. However, this support does not prepare them for self-regulated and higher-order thinking. Hence, developing graduates from: what of learning to how to learn in higher education is crucial.

Teaching learners to plan, monitor and reflect upon their thinking, emotions, and motivation prepares them to increase the autonomy required in decision-making and independence. Developing self-regulation helps learners in higher-order thinking skills, such as creative and critical thinking, and build confidence. It also allows learning dispositions for creative risk-taking, problem-solving, divergent thinking and innovation. We also realize from this study that learners have different characteristics for learning. Some prefer hands-on, some prefer

examinations, and others like presentations. However, as per the learning pyramid, these methods do not encourage retention. Educators must work on shifting passive learning to active learning. Methods such as self-reflection must be taught to Learners to develop thinking about their thoughts and enable their learning. To encourage high order thinking, educators must provide explicit learning and assessment information with deadlines for course delivery and encourage learners to develop goals for their learning. Hence, an explicitly written course outline is necessary.

5.8.6 Deep and meaningful learning

Educators often focus on content delivery in the conventional way of teaching and learning. The learners are mainly passively engaged in surface learning. This is an issue regarding long-term understanding of a broader impact. Deep learning, on the other hand, encourages transformative learning.

Educators mainly use surface learning to introduce new concepts, ideas, and ways of doing things, connect to prior learning, or lay a foundation. However, the educator must contemplate complex conversations to allow learners to extend, challenge, critique and create ideas. When educators use lectures to disseminate knowledge and skills, as found in this study, it reduces the chances of active participation by learners to contemplate deep and meaningful learning.

In Constructive alignment, the qualification learning outcomes must align with the content and the assessment. The following table summarizes a higher education learning matrix developed by the Science of Learning Research Center. Table 29 shows an example of a constructive alignment between educators, learners and assessments for the different learning principles discussed above:

Table 29: Constructive alignment by Hamdoun, (2023)

Educator Implications	Learner Implications	Assessment Implication
Learning as becoming		
Encourage lifelong learning.	A shift in a Learner's self-identity.	Include a variety of self-reflective assessments.
Contextual Learning		
Ensure currency through industry consultation.	Transfer of course content through work attachments, internships, volunteering, practicums, etcetera.	Include more on-the-job assessments or workplace scenarios.
Emotions and Learning		
Building quality relationships with Learners over quantity time.	Self-reflection and exploring strategies for self-regulation and resilience.	Include low-stakes regular assessments with regular high support feedback.
Interactive Learning		
Facilitating a culture of shared values and beliefs where Learners feel safe and inclusive to exchange diverse perspectives.	Self-reflection through social interactions and diverse perspectives on the Learner's ways of thinking, thus expanding on their knowledge and skills.	Include socially interactive learning assessments such as group assignments, peer marking, etcetera.
Learning to learn and higher-order thinking		
Educators assist Learners in deconstructing, exploring, appraising, or reconstructing problems using high order thinking such as analysis and synthesis.	Learners develop the ability to make evaluative judgements rigorously. Learners can question assumptions, prevailing beliefs, and methods.	Actively involve the Learners in designing or introducing assessments. Active Learner involvement in creating the assessment criteria.
Learning challenges and difficulty		

An Educator must foster an environment for Learners to explore their challenging learning mechanisms without stigmatization of confusion and failure.	Learners develop a culture for dealing with learning challenges and difficulties without the fear of confusion or failure and	Incorporate regular low stakes assessment opportunities so Learners can experiment with their learning challenges and difficulty.
Deep and Meaningful Learning		
Encourage Learners to think critically, initiate problem solving and build on prior knowledge.	Learners must not see the Educators as the source of knowledge but as facilitators.	Assessment should include opportunities for Learners to build on prior knowledge and problem-solving activities.

One of the primary observations made in this study is that educators' capability to develop curriculum and assessments is limited because fifty six percent of educators (56%) lacked any form of educator training. Hence, most educators were uncomfortable with suggestions to change the teaching and learning methods. Some educators said they would continue using lectures and practical for teaching and presentations, essays, and examinations for assessments. Another set of educators doing competency-based teaching and assessment found it quite challenging because the ATIs continued to work on inflexible timetables. It was a challenge to accommodate the learners who needed more time to learn the same concept or skill. They were under a lot of pressure. Thus, educators were concerned about developing the knowledge and skills for employment. They said that they were teaching adults. Hence, it was the learner's responsibility to develop their soft skills, and it would be challenging to measure attitude and, thus, a waste of time.

The primary aim of any education system should be the learner's holistic development. Soft or employability skills are as critical as technical skills or even more. According to the industry, they can teach or train the new staff with technical skills but do not have the time and money to train values and work culture. They agreed that higher education Institutions cannot compete with industries regarding the latest technology. Hence, training them for new machinery is needed.

In ancient times, the Brahminic education system stood on ideals and Hindu principles to build personality and character (CIT4VET, n.d.). So, what is the relationship between learner empowerment vs learner-centered teaching and learning methods?

According to Sewagegn et al., (2020) competent problem solvers and skillful graduates will be produced through innovative and appropriate teaching and learning methodologies. This means more empowering and preparing the learners for the real world rather than passive knowledge gathering. Thus, the use of more constructive learning methodologies or learner centered methodologies is encouraged for educators to use. In the traditional teaching method, such as lectures, the learner is the passive recipient of knowledge and is required to convert it into assignments or examinations. There is no place or space for learners to use their prior knowledge, analyze the new knowledge and deconstruct, reconstruct, and create a new understanding.

5.9 Learner involvement

The learners in this study think or believe that they are not capable or knowledgeable enough to help the educators design or create curricula and assessments. This is evident that the learners have never been exposed or empowered to think they can do things. In this case, we can see that the learners see their educators as the house of knowledge and have the right qualifications to determine what they need to learn and prepare for the future. In traditional teaching and learning, such as practiced in many of the higher education institutions in Fiji, the educator is the centre of the learning. The educator decides the learning outcomes, the course content, learning methods and assessments. They mark the assignments and the examinations and determine the marking criteria. Hence, learners cannot be empowered to determine what and how they wish to learn.

Sometimes, it’s scary to know that learning is determined more to keep the educator on the job rather than for the learner's future. During one of the focus group discussions, an educator said that the educator's experience was sufficient to decide the learning for the learners. They suggested that they should provide the learners with sufficient knowledge to use the knowledge and skills provided by the educator in the world of work.

This is where the problem of non-work-ready graduates starts. Providing knowledge and skills that are old and incompatible with the current industry requirements does not prepare the learner

adequately for the real world. Secondly, the learner cannot analyze the old knowledge with the new and create solutions for real-world problems because the learning methodologies are inadequate to provide the platform for critical thinking, synthesis, or evaluation. Knowledge and skills change with time, and it is difficult for educators to keep up with the change as much as they would like to with the industry changes. Thirdly, even if the educators upgrade themselves with the current knowledge and skills, the HEI may be unable to upgrade its resources to meet the industry changes as fast due to limited funding or bureaucratic request procedures.

The literature suggests that educators must learn to empower learners with 21st century skills rather than fill them with knowledge through passive methodologies. Knowledge is available on search engines and workplaces readily. However, what to do with this information, how to apply the skills, and how the learners must be prepared to use this knowledge and skills or create new ways of solving problems, refers to learning. They should be able to use their knowledge and skills to create new ideas applicable to the current situation to solve problems.

Sewagegn et al., (2020) suggested that higher education institutions faced challenges with skills for learning. Skill for like and skill for work. They suggest using strategies to empower learners for autonomy, ownership, and responsibility for their learning, including laboratories, practical fields, and real-world attachments. Appropriate teaching methodologies help learners to develop confidence, competence and self-esteem and become problem solvers.

> *Therefore, a shift in theory (education theory) to a more student-centered approach using active learning is recommended because this approach has its contribution to making the learners creative and proficient in their study* (Sewagegn & Molebogeng, 2020).

When active methodologies are used, learners participate in higher-order thinking, including synthesis, analysis, and evaluation. Active learning also puts the learners at the centre of the learning process and encourages them to develop critical thinking skills to make decisions.

Sewagegn et al., (2020) suggest that meaningful learning only occurs when learners actively process new information, interpret it, and link it to their present knowledge. Thus, learners must be actively involved in their learning, and Educators must involve learners in developing course outlines and assessments.

In active learning, learners construct new knowledge based on their acquired beliefs and experiences. As we can see in this study, learners have not been empowered to think outside the box and their ability to become active participants and construct their learning. For active learning, learners need to be part of the construction system of programmes. Hence, they not only participate in active methodologies to help achieve the course outcomes with the educator and determine how they (learner) will show their competencies or provide evidence of learning. Hence, the learners take control of their learning.

Another aspect of the classroom that this study was interested in is creating a curriculum that meets the needs of learners, much less their cultural needs. Can we create a meaningful curriculum without considering the learner as a human being first? Don't we need to understand our learners first?

Broom, (2015) argues that many learners in the classroom have no interest in learning. The educators' learning style does not conform with them, and they become bored or uninterested. According to Broom, (2015), trusting the learners is essential. The educator's belief that learners can guide their learning builds an environment that creates trust, builds capabilities, and empowers learners to manage their lives. An educator can motivate learners to take charge of their learning in many ways, such as providing challenging or extended activities for the bright ones and using varied teaching methodologies for the apathetic ones. Positive feedback helps to build relationships based on care and respect.

Let us look at an example of an inquiry-based project in agriculture at level one (1) that could easily be changed from examinations to deep or learner empowering learning methodology. This case study uses the educator as the starter of a conversation for group work to research the topic for deep learning and then to develop contextual activities to explore the issues in the learner's community or society for the Outcome:

Describe various market structures and their characteristics.

Example:

1. Educator as the discussion facilitator or keynote address for the discussion sessions – The educator explains the market structures and their characteristics around the world using scenarios.

2. Learners discuss in groups the scenarios placed by the educator. They could explore the types of markets in their vicinity by visiting them, interviewing people, and exploring the statistics for potential markets for non-traditional items.
3. After doing the research, the learners could either do individual reflections or do a group presentation or a painting or a video that the learner finds comfortable on the area identified by the educator, such as a problem-solving question on the potential for developing another type of market or sale of nontraditional items/goods in their community. The educator may also open a space for the learner to discuss personal issues or problems that are relevant to them regarding marketing in their community.

The research or learning methodologies mentioned above encourage learner participation and help them to use their knowledge to develop new knowledge through critical thinking and reflecting on current information with new marketing skills. This way, the learners are empowered to build their self-confidence and ability to solve problems, research information and develop communication skills rather than fill themselves with information for later use. And who knows, the information may become invalid or old when it is ready for use.

Practical could also become biased and an inequitable form of teaching and learning. You may ask how that is possible. Let us take an example of gardening. It is the only way for learners to prove their competency in growing and selling market crops. Not all learners have the same build or strength to dig and prepare gardens. Thus, it is not equitable for all the learners to be judged on this method for competency in planting and selling. Secondly, not all learners are interested in garden making. Many learners can show the same competency in other areas of their interest, such as pot plants and hydroponics or growing seedlings. The idea is to assess a learner's competency to produce and sell agricultural commodities around their interest, which they will most probably use later.

5.10 Equity in assessments

Educators become so mindful of the variables and factors associated with assessment that they entirely forget the learner and their learning when teaching and assessing. This reduces the chances of empowering the learner to determine ways of problem-solving and creativity because achieving competencies or standards matters more than learning. Allowing the learner to be creative encourages entrepreneurship rather than producing mediocre cookie cutters. The learner may never use this knowledge in future means that their three (3) or Four (4) years in

college were wasted, and in the end, they receive a meaningless piece of paper. Hence, educators must focus on learners' interests and future goals when designing teaching and learning methodologies rather than one-size-fits-all criteria. Remember, making the fish climb the tree is not the answer or giving one size stool to people of different heights to see beyond the fence is not equitable.

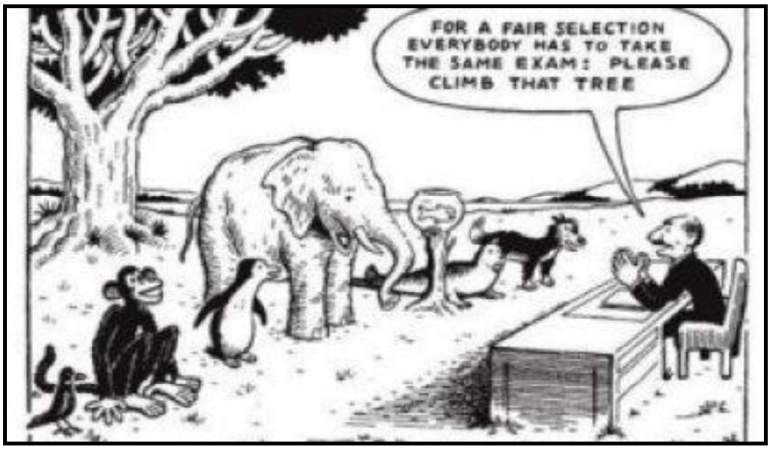


Figure 29: Equity in assessment. Source: Hunt, (n.d.).

Hence, the bottom line is that teaching and learning methodologies must be equitable, empowering, and transformative. Everyone learns differently. Understanding the different ways that people learn is crucial to educational success. Educators and learners can benefit if they understand the mechanism of learning. Knowing the learners helps educators to design lessons that are learner-inclusive, and learning is transformative.

Educators must be fair to all learners and provide a platform where all learners have equal accessibility, availability, and affordability to learning. As discussed above, transformative learning happens when the learners receive equitable learning. They are provided with empowering learning opportunities rather than information collection. Transformative learners can solve problems and create new ideas. In all these types of learning, the learner is the centre of education. This means the learner's perspective and ways of doing it are essential because learning is when a person can construct knowledge on existing knowledge.

Educators often fail to understand that learning is not what the learner can reproduce in the examinations but can be used to construct, reconstruct, or deconstruct knowledge. It’s not the

job of the educator to build this knowledge. Still, they are responsible for facilitating the environment the learner requires to construct or build their learnings through empowering methodologies.

According to Kurnia, (2021) the transformative learning process involves changing the status quo of a person's perspectives. It helps individuals become more self-motivated, self-governing, rational, collaborative, and empathetic. Although Jack Mezirow's transformation learning theory is considered a new phenomenon discovered in 1985, transformative teaching and learning has always been an old concept of Hinduism. Ancient religious schools mention transformative teaching and learning methods. Hindu sacred books are inclined towards the teaching for transformative behavior and instilling values in people. For example, when we buy an appliance from the shop, it comes with a manual that provides the guide on its operations, the sacred books like the Ramayana and the Bhagwat Gita are the manuals for our lives. It guides us on our behavior, roles and responsibilities.

The Hindu Gurus (Educators) felt it their duty to help genuine learners achieve self-transformation for society's good. As per Bhammer, (2015), Guru in Sanskrit means the dispeller of darkness; Gu means darkness and Ru means dispeller. They would communicate with a lived experience deeply. Transformation occurs through experiential teaching and learning. In transformative learning (TL), individuals can expand their consciousness by questioning themselves. This may include their feelings, beliefs, assumptions, or perspectives. Transformative learning is self-motivating, self-governing, rational, collaborative, and empathetic. It helps individuals or groups to develop the ability to reflect on things taken for granted or were unaware of in the past. The Hindu education system is based on Hindu educational thought, which is the acquisition of knowledge of the totality of the universe and not on bits of objective knowledge only.

Most ATIs use competency-based unit standards. Unit standards are a set of outcomes that a learner must achieve to be competent for a skill. So, what are the implications of competency-based or standards-based teaching and assessments on learner centeredness? Can standards be learner-centered? The answer is yes. However, it must have guiding principles to ensure that it is learner-centered. Firstly, we must start with the belief that all learners can learn. They learn in different ways and in different timeframes. Mistakes are part of the learning process and require a positive relationship with educators. Mistakes should not be used to disempower

learners as failures. Mistakes must be provided with an opportunity for further learning. Learning is fun if meaningful. Real-life experiences and complex thinking enhance it. Educators play a facilitator role and inspire, motivate, and empower learners. Stakeholders in the community are partners in educating the Learners.

In a standards-based system, the assessment topic and outcomes are well-defined. The measurement targets are explicit and known by the learner. Involving learners in the discussion about assessment methods and marking criteria gives them an equitable platform to determine how they will demonstrate their evidence of learning.

In a standard-based system, the assessment is conducted against a performance level and not against each other. However, the standards alone do not consider the learner's personality. The standards must be presented in a form that is understood by the learner and implemented by the educator. It is called a curriculum. A curriculum is a document that unpacks the standard into doable learning activities and assessment methodologies. The curriculum must be Learner-centered, flexible, appropriate, and focus on learner empowerment. Thus, the educator involves the learners in determining the learning methodologies and allows the learners to determine how they will prove their competencies.

When developing the curriculum and assessment methodologies, the educator must also consider the diversity of learners in the class. This includes socio-economic, language, culture, ethnicity, etcetera. The new forms of challenges include internationalization, immigration, and refugee status of learners where the previous education system may be substantially different from their previous experience. Educators often assume that learners have come with an expected amount of knowledge, and based on this assumption, determine the learning outcomes, activities, and assessment methods. For example, in this case study, it was noted that the learners were required to do presentations as an assessment methodology. However, the learners indicated that they were not comfortable because, firstly, they were not confident to face a crowd. Secondly, they did not know how to develop and implement presentations. This was one of the reasons they did not like presentations.

Therefore, it is prudent that learners be given the chance to decide how they want to prove their competencies. Another assumption that educators have is that in higher education, learners must be able to write well or use appropriate levels of academic writing. Academic integrity and

plagiarism are something that they learn at the higher education level. Hence, it must be noted that all educators must weave this aspect into their curriculum and assessments.

Artificial Intelligence is another challenge in the classrooms today. Khoo et al., (2022) suggests that teaching and learning methodologies should assist in demystifying academic culture so learners can understand the value of citations and referencing.

Also, educators must focus on the decolonization of the mind. According to Nassif-Gouin, (2019) the process of independence of the mind is a reaction to that of a thought dominated by the other. This is a complex and sensitive issue. It may involve issues from religion and cultures that may be controversial for discussion. Hence, educators must be careful that they have sufficient knowledge and skills to deal with it. For example:

> *How can it be that a text that is more than 2000 years old is still relevant in some countries and contexts?* (Nassif-Gouin, 2019).

Transformative education includes the education for Sustainable Development Goals (ESD) and Global Citizenship Education (GCED). Transformative education is a lifelong learning process and sustainable development. It empowers learners with knowledge, skills, values, and attitudes to address global challenges such as climate change, environmental degradation, biodiversity loss, poverty, and inequality (Nassif-Gouin, 2019). It also includes the development of soft skills such as empathy, appreciation of diversity, inclusiveness, and peace.

Hembrom et al., (2018) argue that global citizen education is not Eurocentric. It suggests that older philosophies have been in existence which are more sophisticated than the idea of global citizenship. The Eurocentric version is tainted because it is the same authors of the racial theory, which was about white supremacy. This idea was developed and justified through the suppression, exploitation, and elimination of people through colonialism. Hence, educators need to redefine the concept of global citizenship in the local context. According to Hembrom et al., (2018) the Maha Upanishad is one of the oldest Sanskrit texts that constitutes philosophies of Hinduism, carries a solid relation to global citizenship, where it describes the idea of Vasudhaiva Kutumbakam, meaning the world is one family:

> *One is a relative, the other stranger,*
>
> *Say the small mind,*

The entire world is a family, live the magnanimous. Maha Upanishad:
(Olivelle, 2024)

Hence, educators must choose teaching and learning methodologies that encourage or empower learners to research their background, culture, or religion to find the basis for developing an understanding of the new knowledge and skills. It allows the learner to critically analyze the information and create learning appropriate for their context or application. Transformative skills and knowledge help people learn to work together to improve the nation and the world as global citizens.

Educators must weave these skills and knowledge into developing a curriculum to enable learner empowerment. Hence, the graduate profile must be strategically designed and articulated because the graduate profile will determine what the graduate will look like when they complete the qualification. Hence, the courses that build up to the qualification must also reflect the graduate profile. They must not work in isolation but complement and link to form one cohesive graduate. A qualification must resemble an ecosystem dependent on each other for a living. It must not be seen as the other person's job regarding graduate attributes. Everyone is responsible for supporting and facilitating the empowerment of the learner into a complete person who is not only job-ready but also ready to face the real world.

5.11 Chapter summary

This chapter discusses the findings under the five (5) hypothesis and the important aspects of curriculum development. It looks at the importance of aligning the curriculum to the outcomes, teaching and learning methodology and assessment. The following were some of the highlights of this chapter:

1. Curriculum alignment while developing the programme documents.
2. The importance of cultural appropriateness of pedagogies in curriculum implementation.
3. Alignment of appropriate pedagogies with assessments.
4. Learner centered curriculum development including assessments.
5. Inclusion of learners in curriculum development including assessments.
6. Curriculum development for learner empowerment and work readiness.

The next chapter discusses development of a culturally appropriate assessment model and framework to align with the culturally appropriate pedagogies and learning activities. The literature review also showed that there may be a need to develop learner centered assessment methods. As discussed in this chapter, an assessment must be developed to ensure the learning is equitable and learner sensitive.

CHAPTER SIX – DEVELOPMENT OF CULTURALLY APPROPRIATE AND COMPETENT ASSESSMENT MODEL AND FRAMEWORK

Assessment practices do far more than provide information; they shape people's understanding about what is important to learn, what learning is, and who learners are (Evans, 2021).

6.0 Chapter introduction

This chapter uses the information from the literature review and the results and discussion to create the new culturally appropriate and sensitive, learner centered assessment framework. The domains of the framework fall out of a culturally appropriate assessment model that is represented in a Swasti model. The domains of the framework include:

Domains and Principles of the Assessment Framework

1. Flexibility
2. Learner-centeredness
3. Fair
4. Sufficient
5. Sustainable
6. Culturally appropriate
7. Culturally competent/sensitive
8. Contextual/Research

6.1 Culturally appropriate and sensitive assessment model

The findings in this study suggested that there was a need to develop a culturally appropriate and sensitive assessment framework to guide agricultural education in Fiji. However, a model was required to support the framework that was also culturally appropriate and sensitive. Hence, the author extended the use of the Hindu thought philosophy to create a culturally appropriate assessment model from which the culturally appropriate and sensitive assessment framework was developed for the FQF levels 1-6.

Firstly, the term culture and appropriate needed to be defined and adopted for this study. The recent crisis of covid-19 has given the traditional ways of living, doing, and seeing a new perspective. Before covid-19, traditional ways of doing things were seen as a barrier to success.

However, the tables turned when the small island states went into lockdown, and the significant economic earner, tourism came to a complete halt. Fortunately, none of the small Pacific Islands Countries (PICs) reported any mass hunger or civic unrest. Interestingly the people resorted to a long-lost tradition of the barter system as a survival skill to support livelihood and well-being during the pandemic. In fact, this system was revived and made famous by an Indo-Fijian woman in Fiji who used the digital platform called barter system to continue accessibility to food without using cash or card. Food was exchanged for food. Another critical traditional concept that assisted in the survival of the PICs was sustainable and subsistence farming and subsistence fishing skills which ensured food security when all forms of air transportation came to a halt and there were scarce in sea farers. Many people had to relearn many of these skills to survive. Notably, the social connections with the extended family and clans became stronger which enabled the distribution of food and services to ensure survival from rural to urban, and vice versa.

This study noted two definitions of culture from the focus group discussions with the stakeholders as follows:

a. It is the way of life learned from our forefathers and passed down to us through generations.
b. Different people have different ways of living and understanding, which identifies them.

Hence, it can be determined that culture is dynamic and perceived differently by everyone. It is influenced by age, gender, sexual orientation, ethnicity, race, religion, and the assimilation of other cultures. Culture forms the basis and raw material for philosophical reflection and philosophy must be understood as an academic activity involving a rigorous and profound search for reality (Mbaegbu, 2014). Thus, for this study, we will use the following definition of culture:

Culture is how a person sees, does, and perceives things passed down through generations and assimilated through exposure by an individual. It is an identity created by a person's thoughts, understanding, and acceptance of things and may change as they grow, get educated or meet other people. Culture is individual, and people accept cultural ways of doing and seeing things at different levels.

Secondly, we needed to look at current assessments and their purpose. As stated by Elliot, (2008) current assessments are mainly paper-based, classroom-based, formalized in terms of organization and administration, synchronized in terms of time and place, and controlled for content and marking. Little change has taken place from the 19th century till today. Maybe the change that we have witnessed is that the traditional assessment methods have gone online. Current assessments are not only costly, but they are also time-consuming. All the effort fosters memorization to pass examinations rather than empower learners with genuine problem-solving skills and deep learning. Educators complain about the rigorous time spent on marking. Learners complain about how much writing and waking they must do during examinations.

Employers complain of inadequate graduates unfit to work in modern workplaces. Elliott, (2008) argues that learners see current assessments as foreign and a hurdle they must overcome to succeed. They do not see assessments as a learning tool. Parental pressure and educator targets push learners to answer exam questions through rote learning and memorization to gain good marks in examinations. This is not centralized to paper-based exams; it also includes online testing. When tasked with an assignment, learners take help from search engines for relevant information and help from friends, pulling together a coherent document for marking. Worst-case scenario, if the assignment is the same as last year, all the learners must extend is a request via social media to a friend and tweak it for submission this year. And recently, artificial intelligence has made assignments easier to do. It is becoming so intelligent that plagiarism software is unable to detect.

A growing disconnect exists between learners' lives outside and inside the classroom. Traditional assessments do not focus on the 21st-century skills needed in modern workplaces of problem-solving, collaboration, innovation, creativity, and critical thinking. The learners of today are tech-savvy. Their strengths include multitasking, a positive attitude, being team players and being goal orientated. Thus, we must prepare and design learning, accordingly, using tools, active learning styles, real-life experiences, in-time, discovery, collaboration and task-oriented (Elliott, 2008).

Elliott, (2008) states that assessments must be authentic, personalized, negotiated, engaging, recognized for current skills, profound, problem-oriented, collaborative, peer and self-assessed,

and tool-supported. It is okay that all assessments need not meet the characteristics mentioned above. However, assessments must be designed to meet the requirements mentioned above. Personalized assessments do not mean that an educator needs to make a separate assessment for each learner. It means that the educator can continue with broad parameters. However, there is flexibility regarding time, place, content, context, etc. In addition, peer and self-review must be included in the rubrics to grow Learner confidence. It allows learners to learn better when they mark and provide feedback on their own or collaborative work. It helps develop critical thinking as well.

Finally, this study developed an assessment framework to help educators develop and create culturally appropriate and sensitive assessments. The framework is developed from model created using the Hindu thought philosophy.

6.1.1 Swasti Assessment Model (Culturally Appropriate and Sensitive Model)

The culturally appropriate and sensitive assessment framework needed to align with a culturally appropriate model. However, there was no mention of one for the Pacific or Fiji. Thus, a representation of a model was created by the author using the Hindu thought philosophy and the concept of a culturally significant banana tree with its own story and relevance to the Hindu culture and economically significant in other cultures.

The model consists of the significant components of the assessment framework represented by the different parts of the plant. Finally, all the parties act together to bear the fruits representing the learners. The roots of the plant represent the four pillars of education. They keep the plant anchored and nourish it with food and water for survival. The stem represents the teaching and learning model, which, as represented by the thick stem, keeps the plant upright and holds the bunch of bananas. The leaves form the canopy, like the seven domains of the assessment framework under which the whole plant rests, providing sustenance and shade for growth and wellness. Figure 34 below shows a culturally symbolic assessment model for developing a culturally appropriate and competent framework.

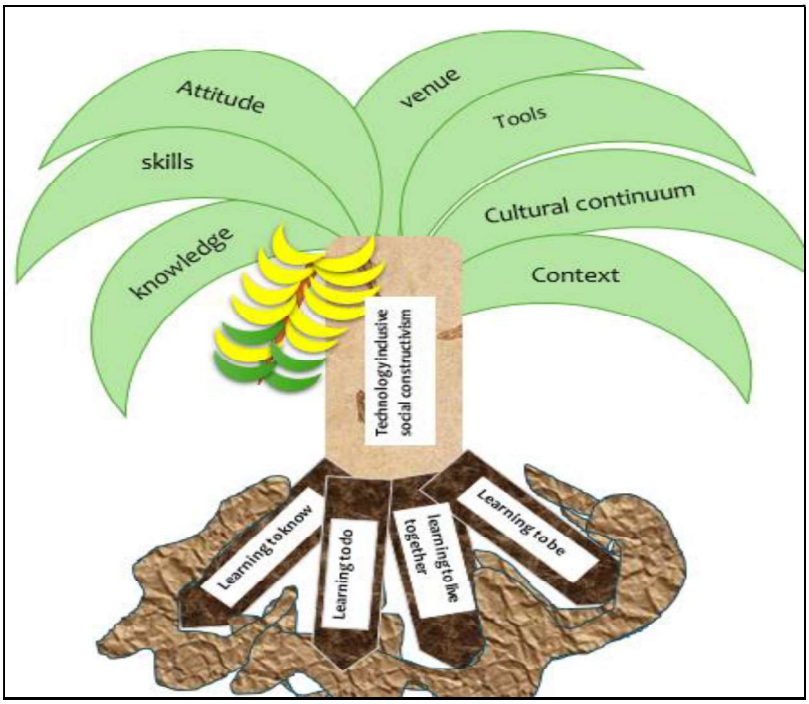


Figure 30: The Swasti Assessment Model. Source: (Author, 2022)

Banana is a berry that belongs to the genus Musa and has many species worldwide. It grows from herbaceous flowering plants. Bananas have several cultural values in different parts of the world.

Banana is an economically viable commodity not only in Fiji but many parts of the world that know. The Times (2015) wrote a story by a prominent chef, Lance Seeto, on how bananas travelled to Fiji. He mentioned that the history of bananas goes back to Southeast Asia and Papua New Guinea, which relate to the different waves of migration and discovery some 10,000 years ago. Interestingly, he mentioned that bananas were first introduced to Australia by Chinese migrants from Fiji. He says that George Kwok Bew, who owns the Wing On and Co. in Sydney, introduced the first banana plants to Western Australia in the 1800s and later to North Queensland in 1870.

According to Kotobalavu, (2020) bananas were a once thriving industry. It said 8,800 tonnes of bananas were produced in 1961; by 2018, it was down to half the amount. A major drawback was a disease caused by a fungus known as Sigatoka Disease. Black Leaf Disease drastically destroyed industry. However, bananas are still a significant source of income for the I-Taukei people of Naitasiri and Tailevu. Both men and women are involved in the cultivation and

harvesting. It is either sold to mediators as green or sold by the roadside by children and women. It is also brought to wet markets for selling.

Bananas also have a spiritual and religious significance for the Indo-Fijian people in Fiji, especially the followers of the Hindu religion. Hinduism has many meaningful ties with nature, and the banana plant is one of them. The banana trunk, leaves, and fruits are considered sacred in Hinduism. Bananas are known as Kadali in Sanskrit (Ganeshaspeaks.com, n.d.). According to the Hindu scriptures, Sage Durvasa cursed his wife to become a banana tree. However, she pleaded with him to give the plant a boon to be treated as unique and holy. The Sage granted the boon, so the plant is considered auspicious till today. The leaves are used to eat holy communion (*Prasad or Bhog*), and the trunk is used in decorations because it means good luck and prosperity. The fruits are offered to God. The whole tree is used during marriages to symbolize evergreen love and relationship. Planting the tree at home is like having a Guru or Brihaspati. It also represents Lord Vishnu. The root tied with yellow thread protects people from the ill effects of Jupiter (*Mangal*) and Pluto (*Ketu*).

Figure 31: Banana Plants. Source: (Ganeshaspeaks.com, n.d.)

Like the banana plant, bears fruit only once, the journey of a learner is completed within the given period and the cohort of learners stay with their educator only once in their educational journey. The journey with every new cohort of learners is a new experience with their educators, and it is never the same. The new banana plant will bear fruits and look the same as the old

plant, but they are not the same and will not behave exactly like the old plant. Hence, every new learner's cohort differs, the old cohort.

6.1.2 Significance to the Hindu thought philosophy and the Swasti Model

In the Hindu dharma, the significance of a banana plant is that it will give success in higher education and empower learners with knowledge (Ganeshaspeaks.com, n.d.). The name of the model is called Swasti Assessment Model because Swasti in Sanskrit means good fortune, success, prosperity, and luck. It also means all peace and is the name of a star that can be seen everywhere. The following is a Vedic prayer of Swasti:

> ***A Vedic Prayer of Swasti****: Aum, bhadram karnebhih srunuyāma devāh ||*
>
> *Bhadram pasyema aksabhir yajatrāh || Sthirair angais tustuvām sastanūbhih || Vvyasema devahitam yadāyuh || Swasti na indro vridhasravāh || Swasti nah pūsā viswavedāh || Swasti nastārksyo aristanemih|| Swasti no brihaspatir dadhātu || Aum, santih, santih, santih ||*
>
> ***Meaning****: Aum! May our ears hear what is good and encouraging. May our eyes see what is good and encouraging. For God's sake, may we fully live the ordained span of our lives with good health and strength. May Indra, who is extolled in the Vedas; Pusan, the lord of the world; Tarksya, who saves us from harm, Brihaspati, who fosters our intelligence, grant us prosperity as we are engaged in the study of the scriptures and the practice of truths in them. Aum peace here, peace above and peace all around (Hindu Prayer).*

Thus, the author named the model the Swasti Model as it is a point of reference like the northern star to guide the boats on a dark night in the middle of the unknown deep sea waters; it is meant to bring auspiciousness to learners and culturally bring peace to all. It is meant to provide a beacon of light for a safe passage for the learners through the adventures of learning.

6.2 Development of the Culturally Appropriate and Competent Assessment Framework

Vision: A vision statement looks toward the future. Thus, the vision of this culturally appropriate and sensitive assessment framework is A culturally responsive and sensitive learner-centered assessment in Fiji.

Mission: A mission statement relates to what is currently being done. Thus, the mission is: To outline national guidelines to support higher education institutions and educators in developing and conducting culturally appropriate and sensitive learner centered assessments.

Preamble:

This framework will create awareness on the importance of aligning and conducting appropriate and sensitive assessments so that the learners see assessments as a learning tool rather than an educational monster. This is the first step towards creating a guide towards appropriate and sensitive assessments for learners and creating pathways for future graduates. The idea is to change the way assessments are conducted and developed in all subject areas. This framework may help to change the perception of assessments and shed new light towards it being treated as learning tools and give the learners more say in how they would like to be assessed, rather than imposed on them by others. It also most importantly develops the soft skills and cultural awareness that are lacking in graduates today. The framework is designed to consider including ways that learners can provide evidence on their character building.

6.2.1 Guiding principles of the assessment framework

Guiding principles are the underlying tenets that describe effective teaching, learning, and assessment. The two guiding principles for this framework have been adapted from the Fiji National Curriculum Framework and the Massachusetts Adult Basic Education Curriculum Framework. The assessment framework will be unpacked into appropriate assessment methods that will be learner-centered and encompass the learning outcomes most appropriately. The two guiding principles are:

Principles of the Assessment Framework

1. **Flexibility**

Assessments that allow for the learner's input and preference are called flexibility. The aim is to consider the learners' preferred assessment method to prove how they can meet the learning outcomes.

2. **Learner-centeredness**

Assessments designed to support learners to learn and not just measure how well they have learned at the end are known as learner-centeredness.

3. **Fair**

When a learner is allowed an equitable opportunity to demonstrate what they know is called fairness in assessments.

4. **Sufficient**

Sufficiency in assessments ensures that they cover all learning outcomes appropriately and competently.

5. **Sustainable**

Allowing for alternative ways of identifying, measuring, and evaluating is called sustainability in assessments.

6. **Culturally appropriate**

Engaging learners in a firm conceptual base and key ideas through assessments is culturally appropriate.

7. **Culturally competent/sensitive**

Culturally competent assessments allow learners to be culturally aware of their own cultural knowledge, skills, and values and learn to be sensitive to others. Thus, they can be more appreciative of their identities and self-worth. This is a significant domain when the world is shrinking due to globalization, mobility and multiculturalism.

8. **Contextual/Research**

All assessments must be contextual. Learners must be allowed to use local or indigenous examples and case studies to make references. As much as possible, assessments must be flexible and open to allow learners to apply their context when preparing answers for their assessments.

As stated by Shehadeh, (2020) contextualization gives credibility to research projects. The two (2) main ways of contextualization, at micro and at macro levels. Micro includes institutional or workplace. Macro includes geographical or location. All assessment projects, big or small, must be contextualized according to the learner's ability and available resources. Assessment is not about the level of contextualization but learning to contextualize or conduct research-based assessments by the learner. Encouraging and empowering learners to do contextualized research-based assessments helps them to shift their mindset from self-growth only to communal growth. Hence, this plays an important aspect or domain in the assessment framework.

This framework does not refer to reliability, validity, and authenticity because these terms are primarily used for test or exam-based assessments. Thus, this study will only apply it to specific assessment methods rather than the whole assessment system. However, it has incorporated two new terms: culturally appropriate and culturally competent assessments. The intention of incorporating these terms is to ensure that learners become confident of their cultural identities, appreciate the ways of doing, and seeing worldviews, and maintain their traditional knowledge and skills with humility.

6.2.2 Technology-inclusive social constructivism education model

One of the guiding models used in creating and developing the assessment framework includes the technology and social constructivism education model. (Lynch, 2016). Learners are encouraged to solve problems using realistic and meaningful contexts. The contradicting results are used as a base to investigate, clarify, and discuss. It allows the learner to reflect on the findings and self. Including the community and family in learning stimulates new ideas. Including technology-based social constructivism helps to guide the learner towards healthy interaction on social media and using it as an educational platform.

6.2.3 UNESCO-based Four (4) Pillars of Higher Education

The second guiding principle is obtained from the UNESCO report on the four (4) pillars of education. They are as follows:

1. Learning to know

According to Lalrizuali (2015) learning differs from acquiring factual knowledge through rote learning. Learning is a never-ending process. It involves the development of memory, the ability to reason, problem-solving, critical thinking, and coherent thinking. Learning is not confined to the pages of textbooks or educators' knowledge. The learner's environment drives learning, needs and requirements. Thus, learning happens in collaboration with the society they live in. The nature and history of humanity determine it.

Since learning is not about acquiring factual knowledge through rote learning, it cannot be assessed only by examinations and tests. Assessments must correlate with the teaching method and outcomes or graduate profiles. Social constructions should only be measured using social methods of evaluation or assessments. It must be learner centered, thus providing an opportunity for learner equity. The learner must be a crucial part of the assessment system. We do not need to remove the learner in the name of appropriation. Learners must be allowed to determine how they wish to present their learning. One size does not fit it all.

2. Learning to do

Learning to do in the 21st century is beyond defined skill sets. There is a shift from a resource-based economy towards an emerging knowledge-based economy. The current COVID pandemic taught us a new perspective on the skills approach. There is increased use of equipment and symbolic products such as cards, electronic trade, internet banking, computer program packages, etc. (Valenti & Alderman, 2022). According to Alibegović et al., (2022) a knowledge-based economy has increased for a highly educated workforce. Thus, it becomes even more imperative that assessments are appropriate and competent.

There are three types of knowledge-based economies: a learning economy, a creative economy, and an open economy. The economies will advance towards democratization of knowledge, education, and information and yet be able to be creative and help to grow the economy. Since knowledge and research would form the basis of the next economic era, ensuring we have the tools to safeguard our traditional knowledge and skills regarding Intellectual Property Rights is paramount. We must not lose focus because we are a cultural-based society and have ways of seeing and doing things.

3. Learning to live together

Fiji is made up of multicultural societies. Globalization and climate change affected refugees and migrants from other parts of the world are fast changing the first version of multiculturalism. Thus, the level of experience and discoveries of others is getting more comprehensive, which means that the educator must change with the changing, diverse environment. It also means changing the ways of teaching and learning.

Firstly, educators must develop an understanding of self and others, learn to appreciate the diverse population, and become aware of the similarities and differences. They must learn to appreciate their cultures and values and develop empathy and cooperative social behavior in caring and sharing. Educators must learn to encounter and resolve conflicts through dialogue or Talanoa. Finally, they must be able to design teaching and learning methods conducive to the learners. It must be learner-centered and equitable.

4. Learning to be

According to the definition by UNESCO (2002) learning to be is meant to be human through gaining knowledge, skills, and values for personality development. It is inclusive of intellect, moral, cultural, and physical dimensions. Thus, the curriculum must cultivate imagination and creativity, including critical thinking, independent judgment, commitment, and responsibility.

While it is essential to acquire universal human values, we must not forget that we are still different from each other and must also learn to respect that difference. We have differences in how we talk, perceive, live, dress, think, study, pray, and eat; the list is endless. It is the way we identify ourselves.

This study intends to bring the differences into perspective to develop respect and understanding. It is also designed to teach how children and adults are assessed during their educational journey because we all learn differently, and we must be given equal opportunity to be assessed most equitably to bring out the best in a person.

We must not remove the person from themselves to build a technically appropriate world. Education is to complete a human being with the richness of their personality, various societal commitments, and family, and be confident to be themselves.

6.3 Key assessment domains

The following domains were identified through literature review and frameworks. Firstly, learning falls into knowledge, skills, and attitude. These are the primary components of a competency framework.

1. **Knowledge –** the ability to retain and process information.
2. **Skills –**the physical ability to perform activities or tasks. According to literature, skills comprise personal/life skills such as communication, digital literacy, and numeracy; professional/entrepreneurial skills such as time management, leadership, design, etc. and finally, functional/lifelong skills.
3. **Attitude –** refers to the feelings or emotions regarding someone or something.

The following domains are required to support the three (3) primary domains/fields. Yet they are strong enough to be on their own.

4. **Venue**

The assessment framework identifies one of the domains as the venue because the learner must know where the assessment will occur. However, it also guides where assessments at different levels could happen.

5. **Tools**

Tools also form one of the domains because they help guide educators on the type and complexity of tools and machinery required at the different assessment levels. It helps support the educator's request to the administration also. It was apparent during one of the focus group conversations regarding the available tools and resources required for assessments. Including tools and resources in the framework provides a mandate for their request. Educators found requesting assessment tools a real problem with administrative staff.

6. **Cultural continuum**

Achieving cultural competence is a process that occurs on a continuum alluded to by Cross, (2020). The continuum has six stages, including:

a. Cultural destructiveness

b. Cultural incapacity

c. Cultural blindness

d. Cultural pre-competence

e. Cultural competency

f. Cultural proficiency

The assessment framework refers to the cross framework to determine the descriptors for the cultural domain by allocating the different stages to the different levels on the framework as given below:

Table 30: Corresponding cultural continuum to levels of Assessment Framework

Cultural Continuum	Level on the Assessment Framework
Cultural Proficiency	Level 10
Cultural Competency	Level 9
Cultural Pre-Competence	Level 8
Cultural Blindness	Level 7
Cultural Incapacity	Levels 4, 5 and 6
Cultural Destructiveness	Levels 1, 2 and 3

The first two stages are allocated to three levels to develop tolerance, respect, and understanding of who they are and others before introducing the higher stages, including cultural competencies.

6.3.1 Stages of cultural competency continuum:

1. Cultural destructiveness

Cultural destructiveness is characterized by displaying and using culturally destructive attitudes, policies, structures, and practices within organizations. A learner must be able to identify such behavior and attitudes or policies, then suggest improvements and finally use the

proposed improvement as part of an assessment task or activity. This will take time. Thus, the assessment framework allows three (3) levels on the framework for learning.

2. Cultural incapacities

Cultural incapacity is the lack of capacity in a system or organization to respond to diverse groups. For example, biases, discriminatory hiring and promotions, unequal resource allocation, devaluing cultural groups, and low expectations for certain groups of people or stereotyping. The assessment framework also provides three (3) levels for learning because of the complexity of cultural incapacity, not only in systems and documents but many a time in people who have created stereotypes for specific groups.

A lot needs to be unlearned, relearned, and learned. Thus, the framework allows learners to understand, build tolerance and appreciate that people are different, and they see and do things differently. Most importantly, epistemology is an excellent barrier in explaining some of the cultures and rituals some groups practice. Thus, the space to allow for using natural terminologies in assessments needs to be considered. Learners must be aware of such discriminatory policies and attitudes before they graduate and build resilience toward anti-discriminatory behavior.

3. Cultural blindness

Cultural blindness or appropriation treats all people the same. Systems and organizations include policies that encourage assimilation. Such policies ignore cultural strengths in the delivery of services. Such attitudes blame customers, individuals, or families for their circumstances. They value training and resources for facilitating cultural and linguistic competence. There is little emphasis on workforce diversity or the placement of structures or resources to acquire cultural knowledge.

This stage is placed to level 7 on the assessment framework due to its higher level of complexity and understanding. Graduates at this level deal more with policies and the implementation of systems.

4. Cultural Pre-Competence

Cultural pre-competence is pegged at level 8 on the assessment framework. It is a stage where graduates start responding to strengths and areas of growth for cultural diversity and linguistics. At this stage, learners value high-quality services, including civil rights, culturally diverse needs, workforce development for cultural competencies, and efforts to improve delivery through specific cultural needs.

5. Cultural competence

Learners can demonstrate examples of cultural competence and acceptance or respect for cultural differences. This is pegged at level 9 in the assessment framework.

6. Cultural proficiency

Cultural proficiency is pegged at level 10, where Learners must hold culture in high esteem and be able to use their cultural experiences or knowledge and skills to support the creation of new knowledge. Learners must be able to use culturally appropriate research methodologies and research frameworks for developing new interventions or approaches.

6.4 Contextualization and Research

Contextualization refers to the educational process of relating the assessments to a particular setting, situation, or area. This is intended to give the learning relevancy, meaningfulness, or usefulness. Contextualization can be either:

a. Localized

Localization refers to relating assessments to local information and materials in the Learner's community. For example, using locality-based examples for problem solving assessments, using local materials in practical assessments, using local stories, etc.

b. Indigenized

Indigenization refers to enhancing learning or assessments using the learner's community's bio-geographical, historical, and socio-cultural context, for example, traditional planting methods, organic packaging materials, traditional calendars, etc.

6.5 The Assessment Framework

An assessment framework provides a structured conceptual map of the learning outcomes of a programme of study and how it can be measured. Frameworks can ensure assessment validity and reliability, allowing educators to create appropriate and competent assessment tools. An assessment framework comprises concepts, definitions, and theoretical assumptions that enable others to relate and adapt to the domains.

An assessment framework helps articulate the components of an assessment tool for measuring. While the curriculum or content is well blueprinted and implemented, assessments are often given fewer planning resources and primarily left to staff without proper training or support in the science and art of assessments. An assessment framework is a consistent point of reference for staff and learners. Its existence encourages critical, reflective development of assessment tools, increases accountability, and reduces bias.

A culturally appropriate and sensitive assessment framework is intended to develop the ability of educators to recognize that individuals view the world through different lenses. Cultural competence is more than just awareness. It integrates culture into the assessment tools for accountability, action, skills development, and reciprocity.

6.5.1 Components and development of the Culturally Appropriate and Sensitive Framework

The components of the culturally appropriate assessment framework intended in this study will be to consider the following frameworks and models:

1. Cultural competence continuum
2. Fiji National Qualifications Framework
3. Biggs constructive alignment model
4. Bloom's taxonomy

Table 31: Culturally Appropriate and Competent Assessment Framework

Assessment Framework - Level 1						
Domains						
Knowledge	**Skills**	**Attitude**	**Venue**	**Tools**	**Cultural Continuum**	**Context/Research**
Cognitive level 1 – Remembering.	Psychomotor Level 1 – Reception	Affective Level 1- Receiving	Classroom based	Quiz questions must align with the outcomes	Able to provide at least one example of traditional knowledge	Provide evidence of family involvement (In terms of a gathering of information)
Assessments must include a minimum of one problem based question	Consistently ensures the safety of self and can communicate verbally. Can write correct sentences in the required language	Learners must provide an explicit use of one or more values in their assessments	or workshop based	Essential equipment to meet the practical	or skill related to the topic	A learner must be able to provide at least a minimum of one localized example in any assessment.
The Learner can provide simple facts and ideas	Demonstrate routine and pre-planned tasks using essential tools	At least one assessment must provide an opportunity for the Learner to self-reflection using any reflection model	or lab-based or field-based	Observation rubrics	Provide an example of at least one attitude that causes cultural destructiveness.	A learner must be able to provide at least a minimum of one indigenized example in any assessment.
	Demonstrate the use of basic ICT and numerical skills	Choosing environmentally friendly materials to work with		Self-assessment guide		

Assessment Framework - Level 2						
Domains						
Knowledge	**Skills**	**Attitude**	**Venue**	**Tools**	**Cultural Continuum**	**Context/Research**
Cognitive level 1 - Remember and 2 - Understand.	Psychomotor Level 1 – Reception and 2 Set	Affective Level 1 - Receiving	Classroom based	Quiz questions must align with the outcomes	Able to provide at least one example of traditional knowledge	Provide evidence of local community involvement (In terms of a gathering of information)
Assessments must include a minimum of one problem-	Consistently ensures the safety of self and others and can speak	Learners must provide an explicit use of one or more values in their assessments	or workshop based	Essential equipment to meet the practical	or skill related to the topic	A learner must be able to provide at least two localized examples in any assessment.
based question	fluently. Can write paragraphs correctly.					
	Demonstrate non-routine and complete tasks using appropriate tools. Able to use ICT and numerical skills to complete reporting templates	At least one assessment must provide an opportunity for the Learner to self-reflection using any refection model	or lab-based or field-based	Observation rubrics	Provide an example of at least one policy, practice, or structure that causes cultural destructiveness.	A learner must be able to provide at least two indigenized examples in any assessment.
The Learner can provide simple facts and ideas	Demonstrate the correct use of essential tools and simple machinery	Ensure waste materials are correctly disposed		Self-assessment guide		

Assessment Framework - Level 3						
Domains						
Knowledge	**Skills**	**Attitude**	**Venue**	**Tools**	**Cultural Continuum**	**Context/Research**
Cognitive level 1 - Remember and 2 - Understand.	Psychomotor Level 1 – Reception and 2 Set	Affective Level 1 - Receiving and 2 – Responding	Classroom based	Quiz questions must align with the outcomes	Able to provide at least two examples of traditional knowledge	Provide evidence of local community involvement (in terms of a gathering of information)
Assessments must include a minimum of one problem-based question	Always demonstrates organizational health and safety protocols and can identify hazards	Learners must provide an explicit use of one or more values in their assessments	or workshop/lab based, or field based	Learner's evidence of work attachments	or skill related to the topic	A learner must be able to provide at least two localized examples in any assessment.
The Learner can provide simple facts and ideas, including processes	Demonstrate planning and completion of non-routine tasks using appropriate tools and machinery	At least one assessment must provide an opportunity for the Learner to self-reflection using any refection model	And must include workplace assessments	Observation rubrics	Provide at least one example of institutional or systemic bias that causes cultural incapacity.	A learner must be able to provide at least two indigenized examples in any assessment.
	Demonstrate the correct use of essential tools and simple machinery	Demonstrates correct handling and disposal of toxic waste materials		Self-assessment guide		
	Able to communicate using ICT and numerical skills to produce primary data.					

Assessment Framework - Level 4						
Domains						
Knowledge	**Skills**	**Attitude**	**Venue**	**Tools**	**Cultural Continuum**	**Context/Research**
Cognitive level 3 - Apply and 4 - Analyze.	Psychomotor Level 3 – Guided response and 4 - Mechanism	Affective Level 1 - Receiving and 2 – Responding	Classroom based	Short Test questions must align with the outcomes	Able to discuss traditional knowledge	Provide evidence of broader community involvement (in terms of a gathering of information)
Assessments must include a minimum of four problem-based questions	Always demonstrates organizational health and safety protocols and responds to hazards and emergencies	Learners must be able to demonstrate values-based leadership	or workshop/lab based, or field based	Learner's evidence of work attachments	or apply skills concerning any topic	A learner must be able to discuss two localized examples in any assessment
The Learner can provide a range of facts and ideas, including processes and theories.	Demonstrate planning and completion of non-routine tasks using appropriate tools and machinery.	At least one assessment must allow the Learner to self-reflect using any reflection model.	And must include workplace assessments	Observation rubrics	Learners must be able to identify an institutional or systemic bias that causes cultural incapacity.	A learner must be able to discuss two indigenized examples in any assessment.
	Demonstrate the correct use of essential tools and simple machinery	Demonstrates ability to design proper disposal of toxic waste materials		Self-assessment guide		
	Able to write reports and					
	provide analysis using numerical and ICT skills					

Assessment Framework - Level 5						
Domains						
Knowledge	**Skills**	**Attitude**	**Venue**	**Tools**	**Cultural Continuum**	**Context/Research**
Cognitive level 3 - Apply and 4 - Analyze.	Psychomotor Level 3 – Guided response and 4 - Mechanism	Affective Level 3 - Valuing	Classroom based	Short Test questions must align with the outcomes	Able to discuss traditional knowledge	Provide evidence of broader community involvement (In terms of a gathering of information)
Assessments must include a minimum of four problem-based questions	Always demonstrates organizational health and safety protocols and responds to hazards and emergencies	Learners must be able to demonstrate values-based leadership	or workshop/lab based, or field based	Learner's evidence of work attachments	or apply skills concerning any topic	A learner must be able to discuss four localized examples in any assessment.
The Learner can provide a range of facts and ideas, including processes, theories, and literature.	Demonstrate planning and completion of non-routine tasks using appropriate tools and machinery.	Assessment must provide the Learner with self-reflection using any reflection model and suggest improvements.	And must include workplace assessments	Observation rubrics	Learners must be able to identify an institutional or systemic bias that causes cultural incapacity.	A learner must be able to discuss four indigenized examples in any assessment.
	Demonstrate the correct use of essential tools and simple machinery	Demonstrates ability to design proper disposal of toxic waste materials	Provision for Learner's recognition of prior knowledge and skills	Self-assessment guide and RPL documentation	Provide suggestions for correcting cultural incapacity	Demonstrate the ability to research international practices
	Must be able to produce a comprehensive report using ICT and numerical skills. Must be able to develop an ability to address a group of 10-20 people					

Assessment Framework - Level 6						
Domains						
Knowledge	**Skills**	**Attitude**	**Venue**	**Tools**	**Cultural Continuum**	**Context/Research**
Cognitive level 3 - Apply and 4 - Analyze.	Psychomotor Level 3 – Guided response and 4 - Mechanism	Affective Level 3 - Valuing	Classroom based	Short Test questions must align with the outcomes	Able to discuss traditional knowledge	Provide evidence of broader community involvement (in terms of a gathering of information)
Assessments must include a minimum of four problem-based and two critical thinking questions	Always demonstrates organizational health and safety protocols and responds to hazards and emergencies	Learners must be able to demonstrate values-based leadership and entrepreneurial skills	Workshop/lab based, or field based	Learner's evidence of work attachments	or apply skills concerning any topic	A learner must be able to discuss four localized examples in any assessment.
The Learner can provide a range of facts and ideas, including processes, concepts, principles, and theories.	Demonstrate planning and completion of non-routine tasks using appropriate tools and machinery.	Assessment must provide the Learner with self-reflection using any reflection model and suggest improvements.	And must include workplace assessments	Observation rubrics	Learners must be able to identify an institutional or systemic bias that causes cultural incapacity.	A learner must be able to discuss four indigenized examples in any assessment.
Able to differentiate and provide explanations based on research and evidence. Must use numerical and graphical skills	Demonstrate the correct use of essential tools and simple machinery	Demonstrates ability to design proper disposal of toxic waste materials	Provision for Learner's recognition of prior knowledge and skills	Self-assessment guide and RPL documentation	Provide suggestions for correcting cultural incapacity and provide evidence of self-improvement.	Demonstrate the ability to research international practices.
	Demonstrate high-level report writing and analyzing using ICT and numerical skills. Must demonstrate good presentation					

	Skills supported by ICT skills					

6.5.2 Using the New Culturally Appropriate and Sensitive Assessment Framework (CASAF)?

The Culturally Appropriate and Competent Assessment Framework (CASAF) created in this study is intended to nurture culturally appropriate and competent assessments in higher education. The CASAF has been aligned to the Swasti Assessment Model, built on the four (4) educational pillars: Technology, technology-inclusive, Constructivism model of Teaching and Learning, and seven domains of the assessment framework. However, the CASAF is limited to levels 1-6 because the study was only conducted for vocational education from certificate level 1 to level 6 (Diploma). Although the data collected was only from Agricultural Training Institutions (ATIs), the framework is general and must be unpacked for specific subject areas. Each domain has been described at each level. Thus, when the educator develops an assessment at a specific level, they must consider the minimum requirements set at each level. Each level is progressive, which means that the learner must show evidence of achievement for requirements at the lower levels.

6.5.3 Unpacking the culturally appropriate and sensitive assessment framework

Unit AGD101 – Postharvest management of vegetables
Level 3

Learning Outcomes:

At the end of this unit, the learner must be able to:

1. Explain how vegetables are harvested safely and without injury.
2. Provide a comparative study on traditional versus modern ways of storing vegetables.
3. Demonstrate knowledge of policies and procedures related to postharvest management of vegetables.
4. Increased awareness and appreciation for increasing the shelf life of a specific vegetable and preventing wastage.
5. Demonstrate safe harvesting procedures for a specific vegetable.
6. Process a vegetable product to increase its shelf life and add value.

7. Demonstrate the ability to conduct research to resolve a post-harvest issue in the learner's community.

Indicative Course Content:

1. Why are vegetables perishable?
2. Causes of damage to crops.
3. Types of damage and its impact on vegetables
4. Policies and procedures concerning post-harvest management of vegetables.
5. Ensuring that the policies and procedures are appropriate.
6. How to harvest crops?
7. Why should we care for crops during harvesting?
8. How to store vegetables?
    a. How were vegetables stored during old times?
    b. How are vegetables stored during modern times?
9. How to increase the shelf-life of vegetables?
    a. How did people increase the shelf life of vegetables in the olden days?
    b. How did people increase the shelf life of vegetables during modern times?
10. How do you add value to vegetables?
11. Conduct research to resolve a post-harvest issue in the learner's community. Group work is encouraged.

Table 32: Assessment plan

Assessment Method	Learning Outcome	Weighting	Measurable Competencies	CASAF
Quiz	1, 4	20%	1. Problem solving 2. Analytical 3. ICT	1. Must have a question on problem-solving. 2. Analyze data using ICT skills
Observation	5, 6	20%	4. Safety 5. Ethics 6. Increase awareness 7. Prevent wastage	3. Must have clear rubrics. 4. Identify hazards. 5. Always maintains safety. 6. Correct disposal of waste material 7. Use a sustainable method to create awareness to prevent wastage in a local context.
Presentation	3	30%	8. ICT 9. Self-reflection 10. Legislative 11. Presentation skills 12. Research skills 13. Problem solving 14. Oral communication	8. Should be able to use basic ICT skills. 9. Provide opportunities for self-reflection. 10. Identify any cultural biases in the policies or procedures that you have studied. 11. Opportunity for Peer marking 12. Present on your findings of the post- harvest issue with alternative solutions.
Written Assignment	2	30%	15. Written communication 16. Research skills 17. Communal knowledge	13. Evidence of information collection from Family 14. Provide two traditional examples of storing vegetables. 15. Two localized examples 16. Two indigenized examples 17. Present a paper to the organization that can help resolve the post-harvest issue in your area.

Thus, the educator will develop assessments based on the assessment plan above. The plan is aligned with the assessment framework and the learning outcomes. The educator also has the flexibility to discuss and include learner-specific requirements because the assessments are flexible.

According to the planned assessments, learners are provided with problem-solving skills, cultural awareness, flexibility, self-reflection, an opportunity for peer marking, and inclusion. All assessments must have marking rubrics provided to the learner before they start. One of the concerns raised by the learners was the non-availability of the marking rubrics for the assessments.

Finally, assessments tools developed using the new framework are meaningful, learner centered, inclusive, culturally appropriate, and sensitive.

6.6 Chapter summary

I woke up to realize I had slept on my book on the table. I looked at the time, and it was 7.30 am. Today was my final exam for the third year of my Diploma in Agriculture. I entered the school to find every student with an open book. I whispered to myself that all was going to be okay. I had been preparing for it for a month. However, at the sight of the exam hall, my fears became intense. A sweat broke and ran down my spine. Finally, the learners were lined up to get into the exam hall, which was much quieter than usual. There was tension in every eye I met. The hot air added to the stressful environment. I could feel my heart thumping within my chest as we all sat at our allocated seats. Nervously, I opened the sheets of paper in front of me. I worked feverishly through the sheets for the next three hours. When I raised my head for the final time, it was 10 minutes to finishing time. I started going through my paper, and it seemed I had written the wrong answers to every question. I panicked. I was stuck on one question. What do I do? Maybe peek into the neighbor's paper, but that was cheating. My mind went blank. The final minute was over, and I had to submit my paper. I wanted to cry but couldn't.

This is the life of a learner today. Examinations seem to control the way education is rendered and decide the future of learners. This chapter found that examinations were common method of assessing learning. It also revealed that higher education institutions in the study placed a lot of emphasis on examinations compared to other methods of assessment.

This chapter was intended to change this scenario given above to a more appreciative, learning and learner oriented, culturally appropriate and sensitive assessment methods through an assessment framework. It discusses the results and the findings for the development of a cultural representation of an assessment model that is from which the culturally appropriate assessment framework has been developed. It has also been found that most of the hypotheses are null and void. Thus, the study supported that there was a need to create a culturally appropriate and competent assessment framework to guide educators in developing learner-centered, flexible, inclusive, and meaningful assessments.

In this chapter, you will find the new cultural and sensitive assessment model and framework developed from a Hindu thought philosophy-based representation of an assessment model. The framework has six domains, and each domain has descriptors to guide on how to measure or

develop assessments that are culturally appropriate and sensitive. It also demonstrates an example for unpacking the framework into an assessment plan.

The next chapter will discuss this study's recommendations, limitations, and conclusion.

CHAPTER SEVEN – CONCLUSION AND RECOMMENDATION

*A cultured life is impossible without freedom from prejudice and attachment in thought and action. As the ignorant act with attachment to action, so should the wise act without attachment to promote the welfare of the world, (*Shrimat Bhagwat Gita*).*

7.0 Chapter introduction

The main aim of this research was to develop a culturally appropriate and sensitive assessment framework using data collected and collated using a Hindu thought philosophy research methodology.

The following research questions were used to seek information and guide the questionnaire and the focus group discussions which were later discussed in detail in chapter on discussion. The following research questions provided a guide to the five (5) hypotheses listed above. The overarching research question is:

Is there a possibility of developing a culturally appropriate and competent assessment framework that will address inclusivity, consider diverse learner backgrounds, equitable, and sustainable.

1. How was there an understanding of cultures developed through the integration of culturally responsive assessments?
2. How was diversity capitalized in the classroom as an asset to student engagement and do educators and demonstrators seek solutions to overcome cultural barriers that affect student learning?
3. What procedures exist to develop and apply strategies to ensure a relevant and rigorous culturally inclusive curriculum and was there a cross-cultural integration to develop an understanding of the different worldviews to make connections?
4. Did the trainers have sufficient teaching and learning resources, knowledge of the different methods of assessing agricultural education to involve learners in classroom and assessment decision-making?
5. What are Fiji's principles for culturally appropriate and culturally competent agricultural education assessments and how do agricultural trainers incorporate the differences in culture for consensus and harmony?

Learning is a term that must be properly understood. Learning is not just about curriculum and qualifications. Learning is more than just going to school. Learning can also occur through experiences, feelings, and verbal and non-verbal communication. Learning is affected by many factors such as culture which determines many things we learn and value. It defines our behavior towards self and others. It is as the saying goes, education without character is dangerous. To understand others, one must know oneself first. Learning is the difference between the current knowledge and skills and the new knowledge and skills. Assessment is the measure of this difference.

Learning adapts to social conditions, rules, and cultural needs. Learning for a person starts with dependence on caretakers and slowly becoming independent by learning from others and the environment. The constructivist theory explains that people create new understandings, and learning happens with the person's will, not just imitation and repetition. Learning can be intermittent or intense. Although both learning styles are functional, the literature says that intense learning, such as that for examinations, can be forgotten easily. Intermittent learning is done over a while, depending on the individual is more profound and permanent. Learning is also affected by the structure of the subject (whole or in parts), Learner participation (dependent on the learner), and feedback (the status of learning. Learning determines human behavior and a crucial factor affecting change management processes in individuals and as an organization. Organization here stands for a body or group of people.

7.1 Literature review

In chapter 2 of this thesis, it was noted that behaviorist theorists believe learning is stimulus-conditioned, while cognitive theorists suggest learning is through mental processes. However, constructivist theorists believe that learning happens when an individual internalizes external stimuli and converts them to a behavior perceived by the person. Thus, as agreed for this study, learning is the internalization of stimuli is affected by the person's environment and previous experience.

Suppose learning is a process where a learner constructs their knowledge from objects, events, phenomena, concepts, or previous experience, then, subsequently the learning process at educational institutions must not be controlled but facilitated. What this means for the educators

is that their role changes from that of a provider of knowledge and skills to that of a facilitator providing guidance on ways to learn. Hence, learning must be conducted in consultation with the stakeholders, and that the facilitator cannot be the judge and the jury. It also means that the learner must be involved in deciding how they will provide evidence of their learning.

If intensive learning is not providing lifelong learning, then we must not take it for granted that examinations are good indicators of appropriate and fit-for-purpose graduates because examinations are a measure of intensive learning. Most intensive learning takes place just before doing exams. Intensive learning can be forgotten upon delay in examinations. Thus, using standard examinations for decision-making may not be appropriate and fair, especially if the decision will affect the life of a learner in terms of their future, scholarship, or career prospects.

Graduates must develop lifelong skills to be productive and work ready. The constructivist theory of a learner requires a significant knowledge base to interpret and create ideas for problem-solving. As the literature suggests, learners in Fiji have difficulty learning because of many issues beginning with language. Learners speak their mother tongue at home and English which is their second language in schools.

Secondly, the curriculum is foreign to them. Most curriculum is based on information copied from books and other resources brought from the other countries. The learner is unable to connect with the knowledge and skills that they may not have seen, heard, or known. Hence, they are unable to relate because it is not the history or examples that they are familiar with or taken from their own context. The methods of teaching and learning are also foreign to them because they are imported, and they are not familiar with some, and they cannot relate to others because they do not align or agree with their ways of doing things. A good example of this would be to debate an issue in the class. In Fiji, debating strongly and loudly is against the culture of indigenous Fijians. Debating is conducted in a manner that is not loud and controlled by the elders of the community. Silence plays a crucial role in such methods for problem solving. However, debate in the western world is about making yourself heard or making a strong stand verbally. In this study, some learners revealed that they were not comfortable with conducting presentations because they felt nervous in front of their colleagues. Some found it hard because of their quiet and shy nature.

When the learner's culture is alienated from them when they enter school, and their cultural experience and language are not considered a basis for learning, they may not embrace education wholeheartedly. Hence, when the facilitators wish to construct or create new knowledge and conduct problem-solving through critical thinking, problem solving and creativity, the learners may not be able to use their experience or previous cultural knowledge and skills as a basis for constructivism because of the barrier created by the education system between cultural knowledge and curriculum.

7.2 Methodology

This study was conducted using the Hindu thought research philosophy. The four pillars of the Hindu thought formed the basis of the framework. The research model which originally is made from the four pillars is symbolized by a swastika. The research framework is represented by a swastika with four pillars or principles from the Hindu thought for conducting and collating the thesis.

7.3 Results and Discussions

7.3.1 What procedures exist to develop and apply strategies to ensure a relevant and rigorous culturally inclusive curriculum and was there a cross-cultural integration to develop an understanding of the different worldviews to make connections?

The findings show that there are no strategic national framework or guidelines for the development of relevant and culturally inclusive curricula. However, there is not a lot of Pacific literature on relevant and culturally appropriate curriculum development. The main ones written by Professor Vaka'uta focus on including a diverse learner-centered curriculum. She also talks about culturally appropriate pedagogies and how they should be used in the classroom. According to the literature, using culturally appropriate teaching and learning methodologies in curriculum development is essential to bridge the learner's and education's gap. Using culturally appropriate and relevant methodologies also assists the learners in deconstructing, constructing, and reconstructing their learnings from what they know to create new knowledge. Using familiar methodologies supports learners to become confident and thus helps them to develop critically thinking and become problem solving. This shift is necessary from passive learning to active and inclusive for developing job creators rather than job seekers.

There was some evidence of cultural aspects included in the curriculum documents studied. However, they were not explicitly captured in the graduate profile or the assessments. This shows that there is potential for developing and using cultural knowledge and skills as resources to teach and assess the curriculum based on the learner's worldview and history. It encourages the critical values of humility and tolerance in people. It also helps to develop respect and understanding towards each other when we learn about their ways of doing and seeing things. Let our learners build their knowledge and skills on the truth. Let them be creative based on what is theirs and belongs to them. We focus so much on constructivism, yet we are far from it. We must not build on others, knowing we are unfamiliar with them. Let's begin to create our own and from our own. It will allow the learners to look further into their past to unlearn, relearn or learn about themselves, construct, and create knowledge and skills and have ownership. Let us critically look at the correct history and help build a positive and inclusive future for the next generations.

The learning activities were also not explicit in the curriculum. There were no policies to explain or guide the teaching and learning activities. There was a lot of emphasis on examinations. Much time was spent preparing, discussing, timetabling, venue arrangements, supervision, meetings, and results presentation at different levels. There was minimal evidence of discussion or moderation for marks gained from coursework.

There was evidence of practical activities being carried out as assessments. However, the practical design was a one-size-fits-all. The practical did not have options for learners with different physics, nor did they consider their future interests. There was no consultation on the learner's needs or interests. The educator determined all practical assessments. Many learners found the practical assessment quite tricky and overbearing. Some said that they had no intention of doing farming after graduation. Yet others were more interested in floriculture and gardening. Some indicated that they were interested in experimenting in labs. So, the bottom line is that all learners have different needs, interests, and career choices.

There was no evidence of an assessment framework in any higher education institute that was studied. The assessment policies consisted mainly of student requirements and guidance on strategic issues.

7.3.2 How was diversity capitalized in the classroom as an asset to student engagement and do educators and demonstrators seek solutions to overcome cultural barriers that affect student learning?

The educators were not interested in getting involved with the cultural side of things. They said considering individual learner needs would be too much pressure and time-consuming. There was no time in the class for such activities. The critical part was ensuring the syllabus was completed in time for examinations. There was so much to be covered and less time for individual attention.

However, some of the everyday things that the educators did were related to culturally appropriate pedagogies, such as discussions and counselling provided during class. Although it was not set as a criterion or mentioned in the curriculum or lesson plans, educators would try to understand their learners' needs.

There was no mention of culturally appropriate assessment methods. It was a surprise for educators that there could be such a thing as a culturally appropriate or competent assessment method or strategy. During the interviews, most educators agreed that group work was the best way to overcome cultural barriers. Hence, towards the end of the focus group discussions, there was some agreement that culturally appropriate assessments could be possible. However, guidance and training must be provided in this area as they were unfamiliar with these learning methodologies.

The learners and educators agreed that assessments must align with teaching methods and be explicitly written as outcomes. Currently, so much emphasis is given to examinations that they do not have time to use other methodologies. The main hurdle, however, was that no written instruction or policy could allow them to use a range of teaching and learning activities.

Constructive alignment with the outcomes, content and assessments must be created. The curriculum is the guide to ensure this alignment is possible. Constructive alignment is where the outcome is achieved using appropriate teaching and learning methodologies and activities.

The study revealed little learner involvement in teaching and learning activities. Many learners believed their involvement could cause bias and favoritism, and their lack of knowledge of assessments was a barrier to developing good assessment tools. Some educators agreed that student involvement is possible, but others strongly disagreed that learners should be part of assessment development.

However, the literature suggests that learners must be involved in developing teaching and learning methodologies. Every learner has different ways of learning. They are receptive to different methods of learning. Some are visual, some like listening, others like reading or writing, etc. Thus, it is suggested that the learner be provided with the competencies they need to show at the end of the course. The learner then decides how they will provide evidence of their learning.

Assessment must be focused on learning and not on standardizing assessment activities. Considering how making the fish climb the tree will teach it to think it is incompetent for the rest of its life because of its inability to complete the activity. Assessments must be equitable, accessible, and available for learners. It should not be targeted to test learners on what they do not know. They must be provided with an equitable platform to prove their learning.

It is suggested that higher education institutions provide freedom for learners to determine their learning. This will enable them to build self-confidence, think critically and be problem solvers rather than passive information takers. Examinations only assist in the reproduction of knowledge. It does not prepare the learners for the real world of work. Learning must be inclusive and aimed at producing global citizens who can peacefully share space.

7.3.3 How was there an understanding of cultures through the integration of culturally responsive assessments?

The study could not find any from the documents, interviews or focus group discussions. Unfortunately, there was no evidence to show that there was an effort to integrate cross-cultural understanding of the different worldviews of learners into the curriculum.

Educators mostly use teacher-centered learning methodologies as learning activities, including lectures, demonstrations, chalk, and board. So, the learners end up as passive recipients of knowledge and skills. There was very little understanding of learner centered teaching and learning activities; if there were any, there was not enough time to implement them.

Education was treated as formal learning of subject techniques and technology. It was the learner's responsibility to learn soft skills from anywhere. To some educators, answering tricky exam questions was critical thinking and problem-solving. When asked what type of questions they would be, they mentioned analysis and evaluation questions. According to the literature review, soft skills such as problem-solving and critical thinking come from associating with the real world of work and life. It needs thinking, discussion, listing possible solutions, collecting information or data, analyzing, consulting, and making decisions. It is not about being able to reproduce learnt information from an educator on a piece of paper.

The curriculum needs cross-cultural integration to develop an understanding of the diverse population to create peace. When we do not understand how a person behaves or does something is the cause of dispute. Bringing together the difference on the table is a way to make the learners understand the world views of the others and the reasons for why they do the things in their way including how and what they do. Sometimes, we take it for granted and stigmatize people such as the Hindus for praying idols without understanding that some people are spatial or visual learners. They are comfortable to pray and believe in a form rather than abstract. They also use idols so they can practice service, offering, and conversing.

Understanding the culture of the learners will also help the educator to understand their learners because there may be times when the learner is unable to explain the cultural reasons for their absence or disagreements. It will also help the educators understand that some teaching and learning activities are not conducive to them because of cultural differences and barriers.

The study could not find evidence of cross-cultural integration in the documents or during the interviews or focus group discussions. Thus, the assumption is that the facilitators do not consider cross-cultural integration to increase understanding of worldviews and create connections.

7.3.4 What are Fiji's principles for culturally appropriate and culturally competent agricultural education assessments and how do agricultural trainers incorporate the differences in culture for consensus and harmony?

The study found that the significant principles of assessments should be the following:

1. Flexible

Assessments that allow for the learner's input and preference are called flexibility. The aim is to consider the learners' preferred assessment method to prove how they can meet the learning outcomes. Assessments should also allow the learners to decide how they would like to show evidence of their learning. They must be able to use their past learnings and deconstruct, reconstruct, and construct new knowledge and skills that are meaningful to them and their future endeavors. Flexibility will also allow the learner to build self-confidence as they take on the learning journey.

2. Learner centered

Assessments designed to support learners to learn and not just measure how well they have learned at the end are known as learner-centeredness. Learning tools must provide the learner with a choice. The learner should not be a passive taker of information and reproduce it on paper for grading. It must help the learner make a change or solve a problem in the real world. They should build the ability to think critically and confidently.

The world is moving towards bringing the learner to the forefront of their learning. Learner-centered assessment activities encourage equity amongst learners because one size does not fit all. In the era of Artificial Intelligence, learners must be empowered to build ethical ways of doing things. Hence, they must be involved in decision-making.

3. Fair and equitable

When a learner is allowed an equitable opportunity to demonstrate what they know is called fairness in assessments. As mentioned above, assessments must be fair and equitable.

Learners have different ways of learning. Some learners are visual, others like seeing or watching, some like listening and some may opt for reading and writing. Hence, the learner should be allowed to choose the best way to show their competencies.

4. Sufficient

Sufficiency in assessments ensures that they cover all learning outcomes appropriately and competently. How do educators decide that there is enough evidence the learner provides to be deemed competent? Most assessments usually have marking rubrics. The rubrics guide the learners to determine how they will be assessed and what they will be assessed against. However, the rubrics are missing in most higher education institutions. Educators only prepare rubrics after the learner has completed the assessment or when there is moderation. The marking of assessments should not be a secret agenda, where you surprise the learner by explaining the lack of marks because of their non-performance in something they had no idea about. Rubrics should be transparent documents. If the learner does not perform as per the rubrics, it is fair to explain where the gap is and how far from learning the learner is. Another critical factor to consider is that the educator must be able to provide positive feedback on the assessment as soon as possible and allow the learner to have another chance to get a hundred per cent competency. The study did not find any feedback process or documentation for this study.

5. Sustainable

Allowing for alternative ways of identifying, measuring, and evaluating is called sustainability in assessments. Assessments should not be designed only for the reproduction of knowledge and skills. It must be lifelong learning. This means that the learnings must help the learner in problem solving and applying in the real world of work.

It must also produce ethical and honest learners. It must help them be understanding and respectful citizens of the diverse world. It must teach the learner to live together and respect the different worldviews.

6. Culturally appropriate and competent

Engaging learners in a firm conceptual base and key ideas through assessments is culturally appropriate. Culturally competent assessments allow learners to be culturally aware of cultural knowledge, skills, and values. Thus, they can be more appreciative of their identities and self-worth. The idea of using culturally appropriate assessments is mainly to engage the learner. Culturally appropriate or learner-centered assessments assist the learner in taking ownership of their learning. This means learners would use their past knowledge and skills to construct or deconstruct new knowledge and skills through critical thinking and analysis. They would be able to create solutions for everyday and real-life issues. Relating education to the learner's culture and how they think and do things is essential. Scaffolding is an essential tool or pedagogy that enables the educator to allow the learners to build a foundation from their knowledge and skills and then construct new knowledge. This way, the learner can see and learn how new information or skills can assist their everyday lives. There is no point in teaching new knowledge and skills to reproduce on another piece of paper. It must be internalized and used to solve problems.

Learning must be an asset and not just going to school. It must make an impact on the learner or gain. It must initiate a person from one level to another, such as how Vedic learners would internalize and analyze the new knowledge to make meaning. The assessments must articulate the learners into laddering, into higher education or thoughts and higher values. Proper assessment will help the learner to self-analyze or self-reflect on their behavior and motivations. Unfortunately, the study could not find significant assessment methodologies used in the ATIs in this study.

7. Contextual

All assessments must be contextual. Learners must be allowed to use local or indigenous examples and case studies to make references. As much as possible, assessments must be flexible and open to enable Learners to apply their context when preparing answers for their assessments. Contextualized teaching and learning help learners transfer knowledge and skills to the workplace or real world faster. The curriculum documents showed workplace attachment for all the ATIs that were studied. However, the workplace attachment was not structured well. Learners were asked to find an attachment in a workplace related to agriculture, and after 4-6 weeks, they were to submit a report on their experiences. There was no way to determine if the

experiences in the essay were correct or made up. It is suggested that workplace attachments be designed so that the learners are learning work skills and work-related skills or soft skills. Employability skills are just as essential as employment skills. Such skills may be challenging to capture in schools. One example is customer service skills. Other ways that educators can contextualize teaching and learning is by bringing the real world into the classroom in the form of case studies, scenarios, and simulations.

7.3.5 Did the trainers have sufficient teaching and learning resources, knowledge of the different methods of assessing agricultural education to involve learners in classroom and assessment decision-making?

The results show little evidence of cultural knowledge and skill-based teaching and learning in the study. According to a focus group discussion, the educators must follow the policies and procedures of the institution. Some educators with teacher-training qualifications knew the different teaching and learning methodologies. However, they also said that it is time-consuming and the high number of learners in a class is challenging to implement learner-centered methodologies. They insisted that ensuring all learners were treated the same was essential. Hence, examinations were a fair way of assessing learners. There was not much said about equity in learning. The educators mentioned that learners were given peer tutoring and tutorials to help them with their examinations. Many educators were still not convinced that learner-centered teaching and learning methodologies were doable with large numbers of learners and that learners should not be part of the development of these methodologies for various reasons.

The facilitators mentioned using the learner's mother tongue, group work and class discussions. However, it was difficult for expatriate educators to include the above in their classes as they did not fully understand the learners' culture and said there was too much diversity to handle. Thus, this study developed a culturally appropriate and sensitive assessment framework to guide the development of assessment methods and tools to ensure that the learner's cultural experience, knowledge, and skills are considered when teaching and during assessments. It will also assist and ease using culturally appropriate pedagogy and teaching methodologies. The culturally appropriate assessment framework will enable a constructive alignment between the outcomes, content/pedagogy, and assessments/learning activities. As discussed earlier, learning

depends on what will be assessed at the end of the day. It is paramount that assessments are also culturally appropriate and competent to ensure that alignment exists between what is taught and what is assessed. It will also ensure that cultural knowledge, skills, and attributes are considered during teaching and learning.

7.4 Assessment model and assessment framework

The way forward to assist learners and facilitators in becoming culturally inclusive and integrating differing worldviews for creating connections and consensus, there is a significant need for a framework for guidance. This study developed a culturally appropriate and competent assessment framework derived from a culturally inclusive assessment model called The Swasti Model, represented by a banana tree.

The culturally appropriate and competent assessment framework, which consists of seven domains with descriptors for levels 1-6 provided to guide the development of culturally inclusive assessments, was developed from the Swasti model above. The components of the Swasti Model were derived from the study data and literature review. Knowledge, skills, and attitudes (attributes) are the three (3) major universal domains of education. However, as suggested in the study, learning is based on the Learner's prior experience and knowledge. The model has expanded domains to culture, context, venue, and tools. The domain of culture ensures that the learner's experience is considered during teaching and learning. Context is the domain that connects the learner to their roots and makes learning appropriate to the person and their environment. Venue and tools are also included as domains to assist the facilitators and learners in getting access to the resources required for appropriate assessments in an appropriate setting to be conducted.

While the framework is specific to agricultural education, it generally can be used for any other qualifications pegged at levels 1-6 within the Fiji Qualifications Framework. It can also be applied to other countries but must be contextualized.

This framework is learner centered and culturally appropriate and sensitive targeted for behavioral transformation. It builds bridges between the home and the school, teaching and learning, pedagogy and assessment, and the learner's experience and learning.

7.5 Limitations of study

The limitations of this study are in budget, scope, and covid-19. Due to the limited budget, the researcher could only cover so much grounding. The geographical location of the Agricultural Training Institutions made it costly to include all of them in the study. Thus, the researcher chose to study on the main island of Viti Levu. Only have a few focus group sessions and interviews with stakeholders. As much as the researcher would have liked to do a more comprehensive consultation, the costs of conducting these were relatively high.

The study was conducted in one country and one subject area only. It would be interesting to make comparisons between countries and subjects. However, the researcher did not have sufficient budget to travel. Covid-19 also made travelling impossible. The lockdowns and covid-19 restrictions caused a lot of delays.

My journey was not an easy one. As a part-time student, full-time staff, and mother, it was challenging to balance things. However, at the end of five years, I submitted my first completed draft to my supervisor, who, as the wonderful person she was, took time out of her whanau time to look through my work. I am always indebted to her.

This research is preliminary not only in Fiji but the wider Pacific. A culturally appropriate and competent assessment framework for the first six levels of the qualification framework is the first of its kind. However, more comprehensive consultation and discussion are needed to finalize the components. A national policy on using this framework will be required to give it a mandate for implementation.

7.6 Recommendations

This study is recommended for future research:

1. Wider scoping - There is an opportunity for this research to be conducted with a broader audience from other parts of Fiji and the regional countries.
2. Increase the framework to level 10 – The framework has been prepared up to levels 1-6. There is a huge opportunity to increase the levels of the framework to level 10 as per the National Qualification framework.

3. Increase the research to other subject areas – The framework is developed for one subject area—an expanded consultation around the different subject areas is needed to validate its application to the different technical subject areas. The general framework may be used to design subject-specific frameworks.
4. A National assessment framework is needed to connect the education system from early childhood to higher education. Currently, Fiji does not have one. The National assessment framework ensures that learning is lifelong, and learner centered. If it starts early, the graduates will have much better problem-solving skills and critical thinking than passive listeners. Assessments will become more meaningful and less detrimental to the learners if the assessment is inclusive and equitable for all the learners. A National assessment framework must also consider people's diversity and refugee status.
5. Develop an assessment framework for primary and secondary level that progresses to the tertiary level.

7.7 Implications of study

7.7.1 Policy Implications

This study suggests that a national framework and policy must be developed in assessments. It must begin with early childhood education. The national framework is intended to cover the broad aspects of learner outcomes at different levels. The framework can then be unpacked into individual subjects. The idea is to ensure that regardless of which area of study the learner chooses, they will be given equal opportunity to prove their competencies.

7.7.2 Future Research

There is a lot of potential for further research in assessments. The current one is artificial intelligence and assessments and ethics. The framework must spread across other subject areas and the lower early childhood, primary and secondary schools. The teacher-training needs to address the need for educators to be trained to implement culturally appropriate assessments. A great need is to look at the training of educators with teaching and learning methodologies for large classes such as in lectures for more than thirty learners. The number may vary with subjects. Another area that needs attention is dealing with classes with diverse learners and how to prepare and implement methodologies to ensure no learner is left behind. The 21st century requires graduates with skills in problem-solving and critical thinking. Examinations are not

the answer. Hence, higher education institutions must conduct research to identify methodologies that can encourage and empower learners to become problem solvers and critical thinkers. Learners must become creative and innovative. As global citizens, educators and learners must now be more inclusive and aware of the broader world issues, such as the impacts of climate change, refugees, and greening. Thus, more training and refresher courses must be developed and implemented to prepare educators with the tools to include issues and deal with sensitive issues in a classroom. There is considerable potential for growth in this area.

7.7.3 Using the Te Kotahitanga tool to assess the impact of the Culturally appropriate Assessment Model in the classroom

This study is based on learning in a culturally appropriate and sensitive environment. Hence, this study recommends that a developed and culturally appropriate framework such as the Te Kotahitanga Observation tool be used to reduce errors and introduce the Pacific to how a culturally sensitive framework can be used to collect significant data.

If given the opportunity, the author would be interested in pursuing the implementation of the newly created culturally appropriate and sensitive assessment model and framework in the higher education institutions. The educators will be capacity built on how to develop outcomes, inclusive curriculum, and assessment tools to ensure they are constructively aligned.

The learners will be consulted on how they would like to be taught and assessed through the Te Kotahitanga Observation Tool. Finally, the same tool will be used to evaluate the progress and success of the work derived from the new framework with learners.

The Te Kotahitanga Observation Tool is the desirable tool for observation with learners because:

It involves a group of people with a common vision, and goals.

1. It is a collaborative process (Kotahitanga).
2. It involves an interactive and dialogic relationship between educators/facilitators and learners (Ako).
3. It allows the learners to participate and have their say (Wānanga).

The new framework will deliver flexible, learner centered, culturally appropriate and sensitive pedagogies and assessments and equitable learning, hence, an equally inclusive and culturally appropriate tool must be used to measure the success of the implementation of this framework. The tool has been tested and reviewed over time to ensure validity and reliability.

7.7.4 Capacity building in developing learner centered assessment tools

The Te Kotahitanga Te Ngā Whakapiringatanga tool also provides for the careful organization of specific roles and responsibilities required to achieve individual and group outcomes (Ngā Whakapiringatanga).

Hence, the Te Kotahitanga tool can be used to build the educator's capacity to manage and use a culturally diverse classroom to support learning. As found in this study, educators/facilitators were not comfortable or equipped with the knowledge and skills on how to harness such an important resource in the classroom to maximize learning.

The educators/facilitators must be capacity build on how they can build a positive culture of respect, care, and aspirations in both learners and educators.

7.7.5 Using the framework to develop assessment tools in other subject areas

The new culturally appropriate and sensitive assessment framework has a new way of teaching and assessing. Thus, both the educators and administrators will need capacity building in unpacking of the framework into outcomes, pedagogies, and assessments. The study noted that many staff did not have a teaching qualification, which makes capacity building more significant.

It is suggested that this unpacking of the assessment model and framework be converted into a certificate level 3, maybe named as National Certificate in Curriculum Development for FQF Levels 1-6 (Level 3). This certificate can include the following standards:

- Development of culturally appropriate outcomes.
- Determining culturally appropriate pedagogies.
- Development of culturally appropriate and sensitive assessment tools.

- Constructive alignment.
- Ensuring equity and inclusiveness in curriculum.
- Workplace experience.

This will enable most educators to access the course as a refresher or a fresher course. Continuous reviewing of this programme will enable it to remain current and become better. I would be privileged to carry out this project for developing this national qualification. This qualification will help in behavioral or transformative changes in educators for more inclusive and equitable teaching and learning.

7.8 Closing Note and Karakia

I wish to end this chapter and thesis with a prayer known as the Gayatri Mantra.

ॐ भूर् भुवः स्वः।
तत्सर्वतुवररेण्यं भगग र्देवस्य धीमर्हः।
र्धयो यो नः प्रचोर्दयात्ः॥

OM. Here's meditating upon the one who governs the universe to illuminate our minds by eliminating ignorance. We meditate upon the Ishwar, the one who sustains life. Enlighten us.

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APPENDIX ONE – FIJI QUALIFICATIONS FRAMEWORK

APPENDIX TWO – LEARNER QUESTIONNAIRE

Cover page

Preamble Name:

Address:

Instructions:

Section One:

1.1 Age:

1.2 Gender:

1.3 Marital Status:

1.4 Area of study:

1.5 Year of Study:

1.6 Border/Day Scholar:

1.7 Previous Qualifications/Education:

Section Two: Are the learners involved in classroom and assessment decision-making?

1. Which of the following assessment methods have you been through?

2.2 Examinations

2.2 Observations

2.2 Third-party reports

2.2 Presentations

2.2 Interviews

2.2 RPL

2.2 Have you been involved in the development of assessments?

2.2.1 Yes 2.2.2 No

2.3 If yes:

2.3.1 What was it?

2.3.2 When was that conducted?

2.3.3 What did you do?

2.3.4 How did you do it?

2.3.5 How did you feel?

2.3 If No:

2.3.1 Do you think Learners should be involved in the designing of assessments?

2.3.2 Yes

2.3.3 No

2.4 If yes:

2.4.1 Why do you think it was appropriate for Learners to be part of assessment designs?

2.4.2 How does it help the Learner to be part of the assessment design?

2.4.3 What would you do if you could design assessments?

2.5 If No:

2.5.1 What are the reasons for not allowing Learners to be part of designing assessments?

2.5.2 What are the challenges for allowing Learners to be part of the assessment designs?

Section Three: What are the principles for culturally appropriate and culturally competent assessments in Fiji?

3.0 What was the importance of assessments in order of priority?

3.1 What was one assessment that you liked?

3.2 Please explain the reasons why you liked the assessment.

3.3 What were the good characteristics of the assessment that you liked?

3.4 What was one assessment you did not like?

3.5 What were the reasons for the dislike?

3.6 What do you suggest a good assessment should have?

4.0 Do you know how your ancestors carried out assessments?

4.1 Yes

4.2 No

4.3 If yes:

4.3.2 What were the methods used?

5.0 Do you think the assessments should consider the cultural backgrounds of Learners?

5.1 Yes

5.2 No

5.3 If yes:

5.3.1 Why do you think it was necessary?

5.3.2 What aspects of culture should be embedded in assessments?

5.3.3 How do you think these aspects can be reflected in the assessments?

5.3.4 Every culture was different. How do you think these differences can be respectfully embedded in the assessments?

5.3.5 What methods of assessment would be best for considering the cultural aspects?

APPENDIX THREE – INFORMATION SHEET AND A SAMPLE LETTER

Date

The Acting Dean

College of Agriculture, Fisheries and Forestry

Fiji National University

Koronivia Campus

Nausori

The Associate Dean of Research - CAFF

College of Agriculture, Fisheries and Forestry

Fiji National University

Koronivia Campus

Nausori

The Academic Advisor: Professor Virginia Warriner

PhD Programme Coordinator

School of Indigenous Graduate Studies

Te Whare Wānanga O Awanuiārangi

Aotearoa, New Zealand

Email: virginia.warriner@wananga.ac.nz

Dear Sir

Greetings!

RE: Approval to conduct research at the College of Agriculture, Fisheries and Forestry

This was to kindly formalize the request for approval to conduct research at the College of Agriculture, Fisheries and Forestry.

This thesis looked at the possibility of weaving into Western classrooms the culturally appropriate ways of teaching and learning and the worldview of the Fijian people to make learning appropriate. My research topic was: "*Nurturing of Culturally Appropriate and Competent Assessments in Agricultural Education in Fiji".*

This research was focused on the teaching and learning of Agricultural education. It included the following activities:

1. Talanoa sessions with teaching staff.
2. Talanoa sessions with Learners.
3. Assessing Teaching resources and materials.
4. Survey Questionnaires.
5. Analysis of the data.

As per the ethical requirements of the College, the researcher shall maintain the confidentiality of the names and findings of the College, Staff and Learners. The findings of the research were shared with the Staff of the College. Suppose the College wishes for capacity building or training needs based on the research findings. In that case, the Academic Advisor and the Principal investigator will share their knowledge and strategies accordingly.

By making this request, I certify that I conducted my research within the research code of ethics and comply with this letter's spirit and the Fiji National University research policies.

Yours Faithfully

Reshika Kumar

PhD Candidate

School of Indigenous Graduate Studies

Te Whare Wānanga o Awanuiārangi

Aotearoa, New Zealand

APPENDIX FOUR – THE STRUCTURE OF THE QUALIFICATIONS FRAMEWORK

"……The FQF provides a system for describing and classifying the nation's quality assured qualifications. The framework creates a platform for different learning pathways and promotes learner mobility by clarifying how qualifications relate to each other within the national education and training system.

The FQF is a ten-level framework and includes qualification types from certificates to doctorates, encompassing all the education and training provided within Fiji at senior levels of secondary school, industry, vocational schools and all TVET providers (including technical training institutes), universities and specialist higher education providers.

The 'classification system' is defined by the levels of competency and achievement (outcomes) that can be expected at each of the ten levels of the framework. Descriptions for levels express increasing complexity, with level one being the most straightforward and level ten the most complex. Emphasis shifts from skills acquired to knowledge acquired at higher levels on the framework. The level to which a qualification is assigned depends on the complexity of the skills and the knowledge being recognised. The level descriptors are included in Appendix 1.

Each level has designated qualification types: certificates, diplomas or degrees. Each qualification type is defined by an agreed set of criteria, which includes the qualification type title, the level at which the qualification type is listed and the number of credits required at each level. All quality-assured qualifications recorded on the FQF must conform to a qualification type.

A summary of the qualification types and their levels.

The FQF includes a credit point system based on equating one credit point to 10 notional hours of learning. This results in 120 credits per year and 1200 notional hours of learning per year. One hundred and twenty credits measure the workload of a full-time higher education student in one academic year.

A credit point measures how long it takes an average learner in notional hours to achieve a qualification's stated outcomes. Notional hours refer to a student's average learning time to meet a qualification's outcomes and performance standards. It includes hours of lecture, tutorials, practice, revision and assessment.

A credit on the FQF is the measure used to compare provider qualifications with levels on the FQF for the accreditation of qualifications. The credit point system is used for:

- *Awarding credits after successful completion of a qualification.*
- *Defining qualification types at levels on the framework.*
- *Ensuring that qualifications on the framework adhere to the credit points assigned to that qualification type…." (FQF Policy Edited 2019)*

APPENDIX FIVE – HECF PROGRAMME DOCUMENT TEMPLATE

Introduction

The Quality Standards for Fiji Higher Education (2019) require a Higher Education Institute (HEI) to implement a system for quality assuring the programmes it delivers. These programmes are based on and provide for accredited Fiji Qualifications Framework (FQF) qualifications.

All HEIs need a plan for how they will deliver their programmes. A programme for an FQF accreditation qualification may run over an extended period, and it needs to be clear how it will be conducted. A programme plan provides an overarching view of the programme's design and some critical requirements that must be met.

A programme plan provides a clear road map for coordinators and educators for delivery and assessment. The programme plan needs to reflect what is occurring in the HEI and can be adjusted due to changes to the programme design.

Template

There is no one way for an HEI to document its programme plan. What is important is that it provides a clear road map for coordinators and educators for delivery and assessment. This attachment to Fact Sheet #11 includes a suggested template HEIs can use and adapt for their purposes.

References

Fiji Higher Education Commission 2019. *Quality Standards for Fiji Higher Education*, Fiji Higher Education Commission, Fiji.

Level 1 Red Cross Building, 22 Gorrie Street, Suva

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http://www.fhec.org.fj/index.php/en/

TEMPLATE 1: PROGRAMME PLAN TEMPLATE

The following is a **suggested** programme plan template. HEIs are encouraged to adapt this template to suit their own needs. Avoid deleting sections and the required details. This **is not** a prescribed document.

Table 1 Programme summary	
HEI Name	Click or tap here to enter text.
Recognition Number	Click or tap here to enter text.
Registration Number	Click or tap here to enter text.
Dates of programme	Insert the year and possibly the semester that this programme applies to.
Code/Title of FQF Qualification	Click or tap here to enter text.
Credit value	Include here the overall credit value of the accredited FQF qualification.
Industry or professional approval/recognition (if relevant)	Include here any programme approvals or recognition of industry or professional groups that the HEI has. Outline the duration and date of approval.
Third-party or parent organisation arrangements	Include information about any third parties or parent organisations that will provide services related to this program. Services could include recruitment agents, teaching and or assessment. Indicate how the quality of the services will be monitored and the duration and date of the agreement.
Learner cohort	Include here information about the target group, e.g. unemployed, literacy numeracy levels, learner needs, existing skills and knowledge.
Entry requirements	Include here the entry requirements for the programme (qualification).

	This information is specific to the HEI but should meet any entry requirements specified in the accredited qualification document.
Pathways	Include an outline of progression opportunities from the proposed qualification to other qualification(s) within the HEI.
Duration programme of	Include here details of the duration of the programme, HEI scheduled holiday breaks, etc.
FQF credit value alignment	Include how the accumulated programmed hours relate to the credit value of the accredited qualification. Justify how the programmed hours and additional student effort align with that of the FQF Qualification Descriptor and that of the learner cohort.

Table 2: Programme outline

Component[1] Code	**Component Name[2]**	**Core/ Elective/ Strand**	**Scheduled hours[3]**	**Directed independent learning hours[4]**	**Additional assessment hours[5]**
Insert code	List the units/modules/courses the HEI has agreed to provide. It should meet the completion rules of the accredited FQF qualification.	C, E, S			

[1] Component is a unit, module of course.
[2] List here the components that the HEI intends to offer.
[3] Insert here the anticipated scheduled/timetabled hours.
[4] Include here any additional learning time that the learner will undertake, such as learning activities that are directed by the educator to be completed, or structured workplace learning hours.
[5] Include here any additional hours that it is anticipated learners will need to undertake to complete assessments beyond time included in the scheduled hours.

	If clustering (refer to Table 4), then Table 2 may need to be adjusted or duplicated to make it easier to complete scheduled hours, directed independent learning hours and additional assessment hours for each cluster.				
Total hours					

Table 3: Delivery and Assessment Approach	
Delivery modes	Outline the approach to delivery and justify how it aligns with the advice in the accredited FQF qualification document.
Distance or Online	If distance or online delivery mode is to be used, list the relevant components to which this mode applies.

Structured workplace learning	If structured workplace learning is to be used, list the relevant components to which this mode applies.
Assessment	Outline the approach to assessment and justify how it aligns with the advice in the accredited FQF qualification document. The table below indicates ✓ the assessment methods to be used for each component. This summary should align with the assessment tools.
Assessment methods	

Components	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
Click or tap here to enter text.								
Click or tap here to enter text.								
Click or tap here to enter text.								
Click or tap here to enter text.								
Click or tap here to enter text.								
Click or tap here to enter text.								

KEY6	A	Demonstration (process)	C	Product	E	Portfolio	G	Written test
	B	Oral questioning	D	Case study, e.g. problem solving	F	Presentation	H	Third-party reference

Moderation process	Include here the processes used by the HEI to internally moderate assessment in this programme. Outline a schedule of units over the years that will be moderated. Specify if this qualification (or any NQ units) is subject to external moderation.

Table 4: Delivery Schedule[7]		
Week	**Component or clustered components[8]**	**Teaching and learning resources[9]**
1	Include here in the order of delivery the units/modules/courses. If clustering units/modules/courses into a large subject, it is suggested that coding be used, e.g. MEC001 (Unit XYZ1, Unit XYZ2, UnitXYZ3).	
2		
3		
4		
6		

[6] Change key as required.

[7] The format may need to be altered to suit the program design.

[8] If specific weeks will be dedicated to structured workplace learning, workplace assessment or exams then this could be indicated in this column.

[9] Include here details of key teaching and learning resources (e.g. PPTs, handouts) that support the teaching of unit or cluster of units. Indicate if texts are set texts or references. If learner guides are developed for each unit, indicate that this is the case. Outlines provided as information to students may also be listed here.

9		
10		
11		
12		
13		
14		

15		
16		
17		
18		
19		
20		

Table 5: Resources			
Financial support	Attach documentary evidence of financial support of monies allocated throughout the programme.		
Learner resources	Add details about any additional learner resources required for the qualification; for larger HEIs, included information could be about the library acquisition plan.		
Educator Student Ratio	Insert the Educator Student Ratio. Include justification concerning the field of study, learner cohort, etc.		
Educator		**Staff member**	
	Component/Cluster code and name	**Name**	**Employment status (F/T, PT, Casual)**

	Employment status and copies of qualifications, licenses, curricula vitae, professional development records, etc., should be on file at the HEI.		
Equipment and facilities requirements	List here the equipment and facilities required and in place for the provision of this programme. Attach a detailed list if preferred.		
Associated documents	List any additional plans or documents (such as timetables and lesson plans) that provide a detailed overview of the Programme Plan.		
Endorsement	Include the name of the body responsible for internal approval, e.g. academic governing body. Include here the date of approval. Attach extract of meeting minutes.		

APPENDIX SIX – ETHICS APPROVAL LETTER

TE WHARE WĀNANGA O AWANUIĀRANGI

01/02/2019 Student ID: 2171166

Reshika Vandhu Kumar
PO Box 1152
Nausori
Fiji
8888

Tēnā koe Reshika

Tēnā koe i roto i ngā tini āhuatanga o te wā.

Ethics Research Committee OUTCOME

The Ethics Research Committee met on 13th December 2018 and have confirmed the following action:

Application EC2018.01.043 APPROVED

If you have any queries with regard to this action, please do not hesitate to contact us on our free phone number 0508926264 or via e-mail to ssc@wananga.ac.nz.

Nāku noa nā
Marama Cook
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