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Letter from the Dean

Hafa Adai Readers,

The Micronesian Educator serves a diverse audience encompassing educators, researchers, and scholars from various disciplines. In 2023, the University of Guam (UOG) marked celebrations as a higher learning institution in the Pacific region with our first doctorate program, the EdD in Instructional and Academic Leadership, a vision of over 70 years in the making. We celebrate this landmark in our institutional history.

The Micronesian Educator, Vol. 34, marked our institutional research community, which included the range of voices from students and instructors in a multiple range of classroom research. This volume includes a range of topics: K-20 from action research summary, trending aqua robotic lesson research, the impact of peer feedback, behavior goal setting, improving Philosophy for Children as a strategic tool for Chamorro student empowerment, and autoethnography research in the examination of lived experiences as an instructor in a distance learning teacher preparation program.

In our upcoming volume 35, Micronesian Education will create a designated space for perspectives from the School of Education and graduate action research, such as methods or instructional strategies for the teacher practitioner, to inform and enhance instructional practices in our K-12 classrooms. The doctorate program will have a dedicated space for advancing educational practices that inform leadership efforts, shaping academic and instructional strategies in diverse professional settings. This approach aims to provide a robust foundation for understanding the significant impact of leadership in educational and operational environments, specifically targeting issues and trends relevant to their studies and communities in our region.

Aligned with the Tulos Mo'na (propelling forward together, translate from Chamorro) initiatives, this year's publication engages in reflective practice with others at home, the workplace, and social gatherings to broaden conversations and strengthen knowledge with cultural insights which may affirm or challenge your mindset. This space of reading, reflection, and conversation creates a shifting of understanding to shape our community voices for mindfulness and, perhaps, a thumbprint for change and insight in meaningful ways.

Un dāngkulu na si Yu'us ma'āse' to Dr. Genevieve Leon Guerrero, editor, and Dr. Matilda Rivera, assistant editor, for their commitment to offering articles to illuminate classroom success and challenges, cultural learning, and archival documents as grounding our understanding of the community we serve.

Continue to learn as we shape our future together,

Alicia C. Aguon, PhD
Dean, School of Education
University of Guam

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Improving P4C Inquiries: Scaffolding Reasoning Processes through Argument Mapping

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Abstract

Practitioners of P4C worldwide and on Guam report that managing inquiries is among the greatest challenges. The challenge is two-fold: feeding the discussion and facilitating the reasoning processes that drive them. The latter requires students to identify the logical order of explicitly stated premises and conclusions, as well as identifying any unstated claims. Research shows that consuming pre-made as well as creating argument maps helps students of all ages to develop these and other critical thinking skills. This essay discusses how argument mapping can be used by P4C practitioners to scaffold the reasoning skills necessary for more manageable and thereby profitable communities of inquiry. Special focus is given to simple ways teachers can engage students with consuming pre-made arguments maps as well as guiding them in the creation of their own argument maps.

Keywords: P4C, argument mapping, reasoning

Introduction

Among the many educational reforms developed in the 1970s was Philosophy for Children (P4C). The brainchild of Matthew Lipman, P4C was designed as an alternative to conventional education, with which there was, as now, widespread dissatisfaction. Responding to worries that education was too passive, Lipman's program allowed children to actively develop their understanding and knowledge of matters of significance to them in communities of inquiry. Modeled on practices of philosophical dialogue informed primarily by John Dewey, these communities of inquiry focused on compassion, critical and creative thinking, and reasoned argument.

Today, P4C is practiced worldwide in over sixty countries, as well as on Guam. Guam's P4C program dates to 2018, when philosophy faculty from the University of Guam collaborated with P4C specialists from the University of Hawai'i Uehiro Academy for Philosophy and Ethics in Education to develop the first training workshop in P4C for primary and secondary educators and administrators on the island. Despite the disruption wrought by the COVID-19 pandemic, over 100 educators and administrators have completed P4C training on Guam since the first workshop in 2019.

Anecdotal evidence suggests that for participants in these training sessions, among the greatest challenges is managing P4C inquiries. This sentiment is shared by many other P4C practitioners. In their systematic review of English-language journal articles written about P4C between 2016 and 2022, Ab Wahab et. al (2022) highlight "classroom management" as one of three main challenges faced by P4C practitioners discussed in the literature (p. 10). A related challenge concerns a lack of ideas to promote stimulating discussions; a third challenge facing teachers is that P4C programs are usually

optional, and not fully integrated into the culture of the school at which they are implemented (pp. 10-11).

Scipione (2020) helpfully analyzes P4C inquiries into the reasoning process (and the argumentative products that result), on the one hand, and feeding the discussion (and the argumentative processes that result), on the other hand (Conclusion). Hence, overcoming challenges relating to “classroom management” requires training in both aspects. While there is no doubt a blurring of these analytical distinctions in practice, this essay focuses on the former and discusses how argument mapping can be used by P4C practitioners to scaffold the reasoning skills necessary for more manageable and thereby profitable communities of inquiry. The next section summarizes the positive outcomes of argument mapping.

Some Benefits of Argument Mapping

Argument maps visually represent not just the claims but also the logical structures of arguments. They have been used since at least 1859, when Whatley, an English logician used a diagram to represent “a chain of arguments,” noting:

Many students will find it a very clear and convenient mode of exhibiting the logical analysis of a course of argument, to draw it out in the form of a Tree, or Logical Division. (Quoted in van der Brugge (2018), p. 133)

In addition to consuming argument maps created by, say, Whatley or others, research shows the positive outcomes that result from making maps as well.

In an investigation exploring the impact of causal maps on causal reasoning, Easterday et al. (2007) conducted an experiment where students with no prior training in causal reasoning were randomly divided into groups. Each group was tasked with analyzing short policy texts using either prose alone, prose along with a pre-made map illustrating causal claims, or prose combined with a mapping software tool that provided instructions for creating a causal map. The results revealed that students provided with an accurate map performed better than those in the other two groups when analyzing new policy texts for causal connections. Specifically, on a performance assessment, map-utilizing students scored 49% ($n = 24$), whereas prose-only students scored 41% ($n = 24$) and tool-users scored 40% ($n = 15$). Although this effect is statistically significant, its precise magnitude remains unclear as the researchers did not report standard deviations.

Similarly, Dwyer et al. (2010) show that using argument mapping as a classroom learning tool significantly improved students’ recall of the details of written arguments as compared to traditional methods. Students who were exposed to argument maps for 10 minutes averaged higher scores on tests of memory, though not on tests of comprehension, as compared to students who were exposed to argument prose for the same duration. The researchers note a small, but statistically significant, effect size of $\eta^2 = 0.041$.

The researchers explain this result in terms of cognitive load or bandwidth. Strategies that visualize relationships between information hierarchically are not as cognitively burdensome as traditional text-based learning. They optimize students’ cognitive bandwidth by freeing it up so that it can be used for the most-important tasks at hand. And, as the researchers demonstrate, argument mapping is among the best of these strategies.

When it comes to analysing arguments, the problem with traditional text-based learning is that it does not allow one to readily connect statements that support and dispute specific reasons. The learner must engage in a cognitively demanding process of linking propositions that are located in different paragraphs, on different pages, and so on. When reading a text-based argument, the reader must mentally construct the argument, thus switching attention away from the information presented in the text. In a series of seminal studies, Pollock, Chandler & Sweller (2002) found that learning is impeded when instructional materials require a high degree of attention switching, for example, between text and figures. They concluded, more generally, that encoding environments that increase the cognitive burden (or load) placed on the reader tend not only to slow the learning process, but also reduce overall levels of learning.

(4)

Making argument maps requires specific skills. What van der Brugge calls the “structuring task,” requires “identifying what supports what, either by author’s intention, or by the most charitable interpretation of what is given in a text—the strongest rendering of an argument regardless of the author’s intention” (p. 154). Important in this regard is making explicit any unstated premises. These and other skills necessary for making argument maps are part and parcel of the reasoning process mentioned above. In turn, reasoning is part and parcel of critical thinking. It should come as no surprise, then, that making good argument maps improves critical thinking.

Van Gelder (2001) provides arguably the earliest evidence for the effectiveness of argument mapping in improving critical thinking. Van Gelder conducted two rounds of the California Critical Thinking Skills Test, using parallel forms, before and after a semester of instruction. The results showed standard deviations of 0.84 and 0.85, respectively (p. 8). Twardy (2004), following Van Gelder’s protocol, reports an effect size of 0.72.

Van Gelder (2016) offers a meta-analysis of twenty-five published and un-published research studies on the effectiveness of argument mapping in improving critical thinking with sufficient data quality. Overall, he reports an effect size of 0.65 standard deviations. Nevertheless, when categorizing teaching interventions based on the intensity of argument mapping exposure, van Gelder found that courses with high intensity resulted in a 0.78 standard deviation improvement; this is in-line with his original research. Medium intensity interventions resulted in a 0.46 standard deviation improvement, while low intensity courses demonstrated a similar level of improvement to traditional critical thinking instruction, with a 0.29 standard deviation increase.

It is the case that these results are based on experiments involving college-aged students. Nevertheless, Fan et al. (2019) studied the use of argument maps among elementary students, showing that argumentative essays produced by students using argument maps were superior to those written by students who used concept maps or who were instructed using conventional argumentative writing strategies in the other two groups. And Lidåker (2018) provides an exploratory study of the use of argument mapping as a tool for critical thinking in secondary schools. He concludes, “students in secondary school can use argument mapping in a basic way, and can do so after less than two hours of training and limited instruction” (p. 32).

These data suggest that P4C practitioners at all levels can effectively scaffold the reasoning processes integral to communities of inquiry through argument mapping. The next section describes some ways

to do this by engaging students in both the consumption and creation of argument maps. The section begins with some terminology, and some general map-making strategies and tips, especially useful for teachers preparing the former kinds of activities with students or transitioning to the latter.

Scaffolding Argument Mapping

There are a few things to keep in mind when constructing argument maps. An argument is a set of claims, one of which follows from or is implied by the other(s). A claim is a declarative statement that is either true or false (but not both), even if it is not clear yet which it is or how we would go about making such a determination; "It rained last week" is a claim, as is "There is life on GN-z11, a galaxy 13.4 billion light-years from Earth." Include only claims in argument maps; if necessary, express the information contained in (rhetorical) questions, exclamations, or commands, as a claim by rephrasing the original statement declaratively.

Put each claim in its own box. In addition to boxes, argument maps contain lines. The lines on argument maps represent the logical connections between claims. These logical connections or inferences are unidirectional, from the supporting claims to the main conclusion of the argument.

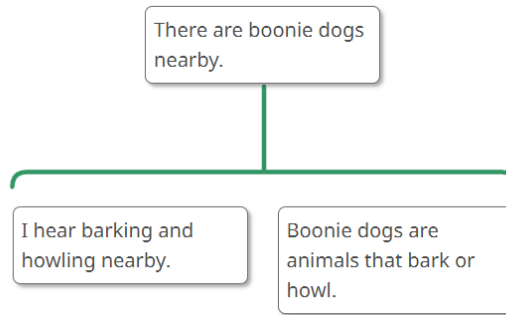
Put the conclusion on the map first. In addition to the conclusion, an argument must have at least two premises. A premise is a claim that offers a reason to believe the conclusion of the argument. As Toulmin (2003) points out, premises are of two kinds. Grounding claims provide evidence or facts that help support the conclusion. Warrants link the evidence to the conclusion. In some instances, warrants express value judgements.

For example, you might believe that there are boonie dogs nearby. What grounds this claim? The fact that you hear barking and howling nearby. According to Toulmin, however, this fact supports your contention only if it is (assumed to be) true that boonie dogs are animals that bark or howl (91). If boonie dogs do not bark or howl—but rather chirp, say—then this fact does not support your belief that there are boonie dogs nearby. So, the warrant is what makes it logically possible for your evidence to actually support your contention.

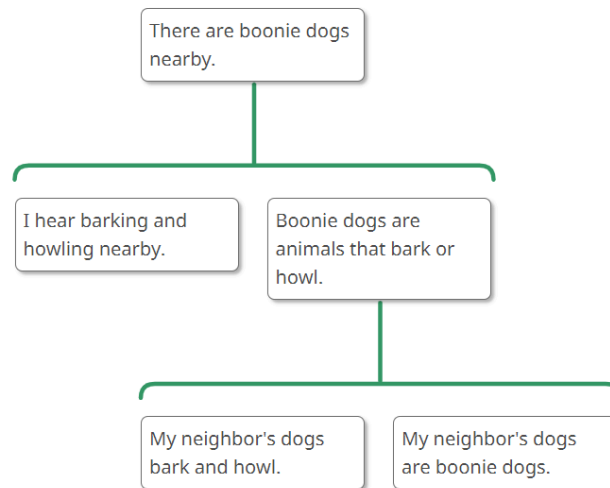
The reverse is also true. Let's say that, in support of your belief that there are boonie dogs nearby, you claim that boonie dogs are animals that bark or howl. According to Toulmin, however, you need proof that this claim applies to the present case (p. 90). If you do not hear any barking or howling, this claim is irrelevant. So, the grounds you provide—namely, that you hear barking and howling in the distance—is what makes your warrant applicable to the present case. Connect these supporting claims below the conclusion of the argument.

Creating argument maps, then, is a reiterative process of making triangles. The top of the triangle is always the conclusion, the claim that is supported by the grounding claim and warrant. Since these claims support or hold up the conclusion, they go beneath the conclusion where they can best offer support.¹

¹ Creating argument maps requires the simplest of media: pencils and paper, for example, or even a chalk-board. As Davies (2012) documents, a growing body of evidence suggests that computer-aided argument mapping promises greater improvements in critical thinking as compared to the use of traditional argument mapping media (pp. 5-6). Although there are over a dozen, free computer-aided argument mapping software options to choose from, I prefer MindMup's argument visualization app.



We can add to this argument by providing evidence for the claim, “Boonie dogs are animals that bark or howl.” In this case, since this claim is now a (sub-)conclusion, we need to provide a grounding claim and a warrant. They support the claim in question, and so go under it.



We can periodically check our work against two rules to ensure that our maps are constructed correctly. “Every significant word, phrase or concept appearing in the conclusion of an argument must also appear in a claim supporting it.” This is what van Gelder calls the Rabbit Rule. As he explains:

The idea behind the rule is that you can't pull rabbits out of hats just by magic. If a rabbit appears above the hat, it must have been put in there previously. In argument mapping terms, nothing can magically appear in the [conclusion]; it must have been put in the premises first. (Tutorial 2)

Since most arguments begin with facts expressed by grounding claims, this rule helps us to create the warrant in most arguments; the warrant is usually an implied claim that must be assumed to be true for

It has an elegant and intuitive user interface. And it is updated regularly, oftentimes in response to users' needs, if not also desires. All of the argument maps in this essay have been created by me using MindMup.

the argument to be good. We can match concepts that appear in the main conclusion and grounding claim; for example, “nearby” in the example above. Whatever is left over must be paired in the warrant; the concepts “boonie dogs,” “barking,” and “howling” from the above argument.

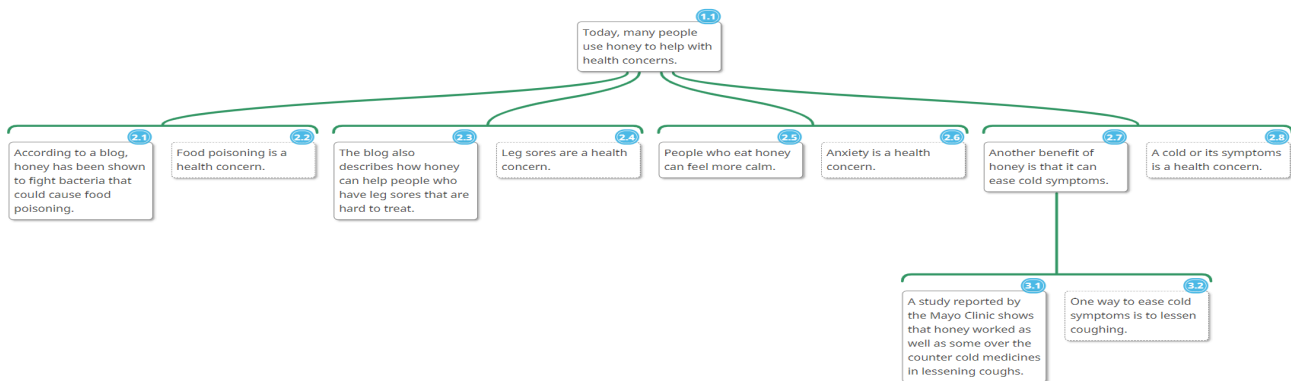
In addition, “every significant word, phrase or concept appearing in a supporting claim but not in the conclusion must also appear in some other supporting claim at the same level of the argument” (van Gelder, Rationale Tutorial 2). The Holding Hands Rule, as van Gelder calls it, is helpful because it clearly identifies what phrases need to be connected in the “missing” claim for it to perfect the inference. The second warrant above cannot express anything other than the claim, “my neighbor’s dogs are boonie dogs.”

There is a learning curve to creating argument maps in accordance with these rules, tips, and tricks. One way to scaffold this learning is to engage students in creating maps of arguments they find in course readings or Smarter Balanced Assessment practice items.²

Consider practice item 182979, below, which asks sixth-grade test takers to read the following passage and identify one claim that the author makes that is supported by credible, or trustworthy, evidence.

For centuries, people around the world have enjoyed honey. It is delicious and natural, and has long been used for baking or as a sweetener for tea. Today, many people use honey to help with health concerns. According to a blog, honey has been shown to fight bacteria that could cause food poisoning. The blog goes on to describe how honey can help people who have leg sores that are hard to treat. People who eat honey can feel more calm. Another benefit of honey is that it can ease cold symptoms. A study reported by the Mayo Clinic shows that honey worked as well as some over the counter cough medicines in lessening coughs. (Smarter Balanced Sample Items)

Teachers might create a map of this argument ahead of time and ask students to work individually or together during class to fill-in this argument’s missing boxes. Maps will vary in terms of the precise language used to express explicit, and especially implicit, claims but the map below provides a good example:



² The adoption of the Smarter Balance Assessment System was covered extensively by several local news outlets on Guam. See, for example, Pacific News Center, 2021; Hernandez, 2021; Toves, 2022.

Teachers are advised to leave only one box blank per argument unit or triad so that students can use the Rabbit Rule and the Holding Hands Rule—in conjunction with the text or passage under consideration—to complete the map. For example, if Box 1.1 is left intact, Boxes 2.1, 2.4, 2.5, 2.8, and 3.1 can be left blank. This difficulty of this activity increases with the number of boxes left blank.

In another activity, students work to correctly arrange the claims of an argument to create a reasonable map of it. Teachers can again make use of a premade argument map for this activity. This time, however, teachers provide students with all the claims, each printed or written on its own small sheet of paper. Students then work—again, individually or in small groups—to pair claims and arrange them hierarchically in accordance with the Rabbit Rule and the Holding Hands Rule.

With an argument map like the one above in-hand, identifying the one claim that the author makes that is supported by credible, or trustworthy, evidence should be easier for students. Not only will they be better able to understand the argument of the passage, especially considering those claims that have been added to the map in keeping with the Rabbit Rule and Holding Hands Rule (2.2, 2.4, 2.6, 2.8, and 3.2). Students will be in a better position to literally see, in this case, that there are only two claims that have any support: Claims 1.1 and 2.7. To decide which claim has the best support, students see—again, literally—that they need to consider the credibility of the Mayo Clinic in contrast to “a blog.” It is very easy to frame a class discussion around the Mayo Clinic’s reputation, perhaps in contrast to more and less credible blogs.

Once students are comfortable with the mapping process, teachers can encourage them to map an entire argument from a favorite class reading or a practice item. This can be done individually or in small groups. It is even more fun and educational when the entire class works together, directing teachers how to draw the agreed-upon map in real time on a whiteboard or other surface! The process may proceed in this way.

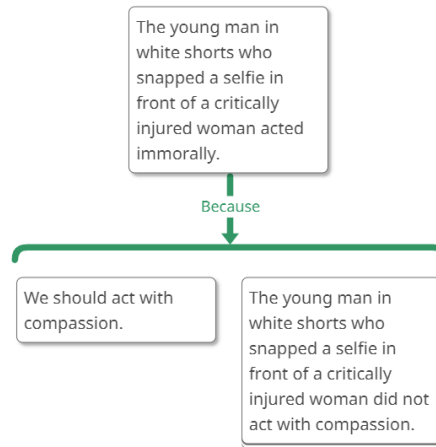
Consider the young man in the photograph taken by journalist Giorgio Lambri in May 2018. While emergency workers offered aid to a woman critically injured by a train at a station in northern Italy, he snapped a selfie of himself with his fingers in a 'V for victory' sign.³

Teachers might ask students: what, if anything, is morally troubling about this young man taking a selfie at the scene of this accident?

He doesn't appear to be injuring anyone or otherwise causing pain; in fact, he appears to be enjoying himself. Neither does he appear to be shirking any moral obligations; he doesn't appear, for example, to be a medical professional refraining from helping during a medical emergency. But is he acting virtuously? Does he have a good moral character?

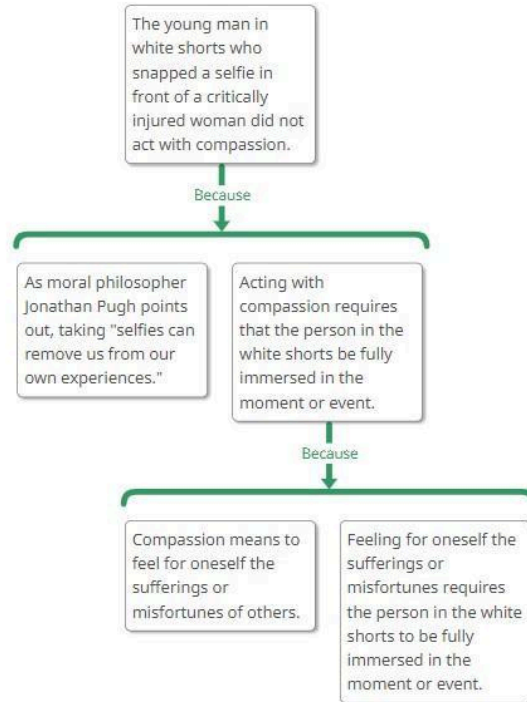
There is at least one reason why students might answer this question in the negative. It may be argued that the young man in the white shorts lacks compassion. In what follows, the virtue of compassion is used to create an argument map in support of the claim that the young man in white shorts who snapped a selfie in front of a critically injured woman acted immorally. The core argument might look like this.

³ The BBC (2018, June 5) provides an English-language version of this story, which includes Lambri’s photograph.

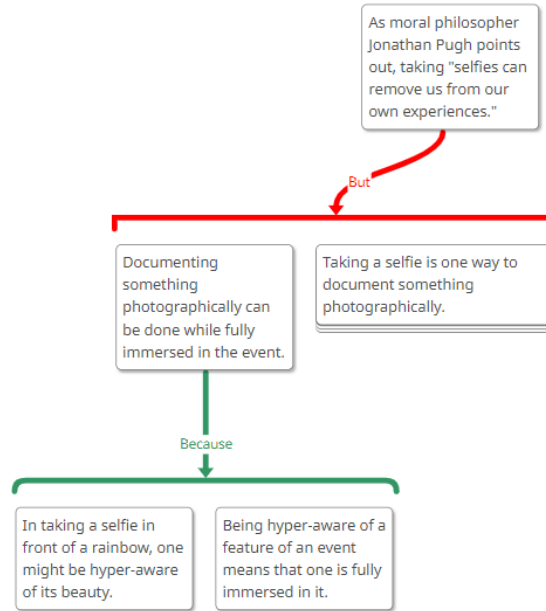


It is necessary to provide evidence for the report that the young man in the white shorts did not act with compassion. One way to do this is to solicit definitions of compassion that highlight exactly what the virtue is and requires. For some, compassion means to feel for oneself the sufferings or misfortunes of others. So, in order to show that the young man in the white shorts did not act with compassion, it is necessary to show that he did not feel for himself the suffering and misfortune of the injured woman at the train station.

Here, there is space for a profitable discussion amongst and between students. For the present purpose, I rely on Pugh (2015). He argues that "selfies can remove us from our own experiences." If this is true, then it is impossible for the young man in the white shorts to be able to feel for himself the suffering and misfortune of the injured woman. This is because feeling for oneself the sufferings or misfortunes requires the person in the white shorts to be fully immersed in the moment or event. But he is not fully immersed in the event of which he is a part; he is focused only on taking a memorable selfie.



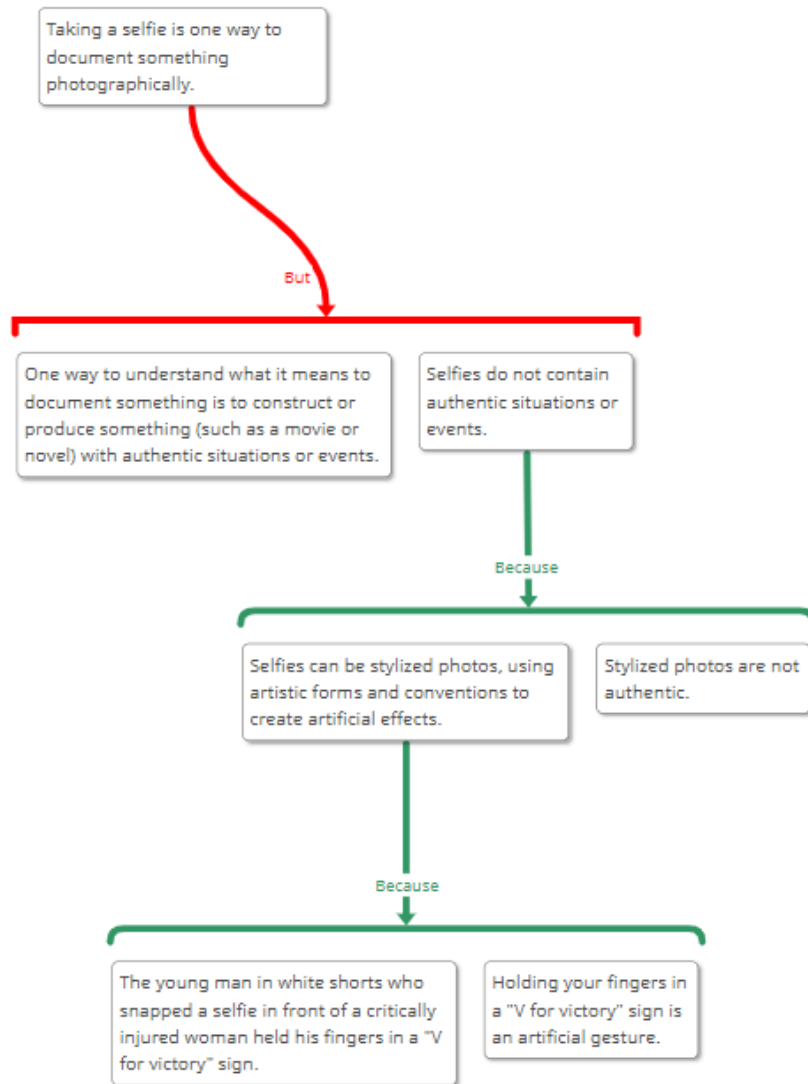
One question is whether there is any reason to believe that "selfies can remove us from our own experiences." Unfortunately, Pugh does not offer any reason to accept this key claim! Against it, someone might observe that documenting something photographically can be done while fully immersed in the event. This fact can be combined with the warrant that taking a selfie is one way to document something photographically. It follows, contra Pugh, that selfies likely do not remove us from our own experiences. This objection—and others besides—can be added to the argument map, using a differently colored line to represent the contradiction.



The argument can develop even further, to respond to the objection just noted. One way to do this is to undermine the claim that taking a selfie is one way to document something photographically; the other way is to undermine the claim that documenting something photographically can be done while fully immersed in the event. With especially documentary films in mind—but also deeds, birth certificates, and affidavits, for example—it seems plausible that one way to understand what it means to document something is to construct or produce something with authentic situations or events. If it is also true that selfies do not contain authentic situations or events, then there is good reason to reject the claim that taking a selfie is one way to document something photographically. Selfies don't document anything at all, in the strict sense of the word!

But is it true that selfies do not contain authentic situations or events? Consider that stylized photos are not authentic. So, if selfies are stylized photos, then the answer is affirmative.

This brings us back to the young man in the white shorts. In his selfie, he held his fingers in a "V for victory" sign. And holding your fingers in a "V for victory" sign is an artificial—and hackneyed—gesture. So, selfies, which generally use similar artistic forms or conventions, cannot be said to contain authentic situations or events.



Conclusion

One of the oldest surviving maps is the Babylonian Map of the World. Created around 700 to 500 BCE in Mesopotamia, the clay tablet depicts Babylon at the center, bisected by the Euphrates River and surrounded by the ocean. Although unrealistic, the map served an important, "talismanic" purpose, according to Jeremy Brotton, a professor of Renaissance studies at Queen Mary University of London who specializes in cartography (as quoted in Thompson (2017, July 1)). The map allowed the map-holder to grasp—both mentally and physically—the whole world.

Realistic maps did not become popular until the second century AD. Claudius Ptolemy was an astrologer who was in search of a way to make horoscopes more accurate. For this, he devised a system of lines of latitude and longitude, onto which he plotted some 10,000 locations—from Britain to Europe, Asia and North Africa—based on information detailing the locations of towns and the tales of travelers. These maps facilitated the navigation required by the economic development and exploration characteristic of the Renaissance.

Argument maps help students in the same ways. Since they visually display how claims work to support other claims, argument maps help students not only to easily understand an entire argument all at once. They also help students to clarify and chart inferential paths from claim to claim. These skills are an important part of the reasoning processes central to communities of inquiry.

This essay described several argument mapping activities that P4C practitioners and other teachers can use in any classroom to develop these processes. Beginning with activities that focus on consuming argument maps help students to understand the logic of argumentation and to explicitly identify problem areas that may benefit from further critical inquiry. The modeling of such argumentation is beneficial to students as they begin making their own argument maps. These and other critical thinking skills are reinforced when students begin creating their own argument maps.

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Leveraging P4C as a Tool for CHamoru Education: Encouraging the Decolonization of Guam's Public Education Through Philosophy for Children

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Abstract

In this paper, I explore the Guam Department of Education's (GDOE) decolonization efforts and the potential role of Philosophy for Children (P4C) as a strategic tool for its advancement. I begin with a discussion of Guam's colonial context and its implications for contemporary education on the island. While the GDOE's current attempts to decolonize Guam's public education emphasize the need for an "official body of knowledge," many CHamoru scholars and activists have argued that it is not enough. This paper agrees that such content-based reforms are insufficient and advocates for a more nuanced approach to education through P4C. Drawing on the P4C literature and decolonial education, I argue that while P4C alone may not bring about structural change, its pedagogical framework offers a promising alternative when adapted to indigenous contexts. The paper proposes that P4C can serve as a "Trojan Horse" within public schools, fostering decolonial acts of resurgence by elevating indigenous knowledge, welcoming indigenous masters, and empowering CHamoru students within a Westernized educational setting.

Keywords: P4C, CHamoru education, decolonization, Guam, public education

Introduction

In 2017, Gregorio Ecle, a CHamoru language and culture teacher at Southern High School came under fire for passionately raising criticism against US colonial foreign policy. As Ecle himself put it

"'America flexes its muscles all the time,' and 'because it doesn't adhere to the way you and your people think you think it's wrong. That's why everyone hates America — because we always think we know what's best and can change everyone, but people from America just need to shut the (expletive) up!'" (Ecle in Roberto, 2017)

In response to the media attention, Joe Sanchez, Deputy Director of the Guam Department of Education (GDOE), responded to Mr. Ecle's lecture with the following:

"'Notwithstanding the bad language he apparently used, we think that how it was publicized is an example of what could happen without an official body of knowledge,' ... 'What we could do is level the material by compiling existing data and presenting those works to the commission for your approval.'" (Sanchez in Cruz, 2017)

Director Sanchez's remarks reflect, I believe, GDOE's general approach to decolonizing education on Guam. To properly decolonize Guam's classroom means creating an "official body of knowledge" that

can standardize the discourse of decolonization of Guam's education. In other words, decolonizing education is presented as a content-based reform. However, many CHamoru scholars and activists have criticized such a view as insufficient for a decolonial movement in education. Rather, than focusing solely on content-based reforms, GDOE ought to complement its current agenda with a novel and more nuanced approach to teaching and educating – one that can both specifically empower the indigenous youth it serves and elevate CHamoru identity, history, and language within public education.

This paper presents a brief argument advocating the use of philosophy for children (P4C) as a strategic tool for advancing the decolonization of Guam's public education. Following the literature on P4C and decolonial education, I acknowledge that P4C alone is unlikely to bring about significant structural change (Reed-Sandoval, 2018; Chetty, 2018). However, its unique approach to pedagogy, designed to counteract the negative influences of Western-style schooling, suggests that if adapted to indigenous contexts, P4C could offer an empowering educational alternative. As I will show, not only is P4C adaptable to the needs and goals of the western public education system, but its dialogical, reflexive, and open-ended nature also implies the possibility for a deeper more empowering and subverting education for Indigenous CHamoru students in Guam. This means that, in the words of David Kennedy and Nancy Vansieleghem (2011), P4C can act as a Trojan Horse that infiltrates public schools and generates change from within (Vansieleghem and Kennedy, 2011). More specifically, I propose that P4C can incite what Kiesha Borja-Quichocho-Calvo calls "decolonial acts of resurgence" in education in three ways by: 1) elevating the status of indigenous knowledge, 2) opening the school doors to indigenous masters, and 3) empowering CHamoru students to experience the value of Indigenous knowledge within an educational setting.

The Colonial State of Education on Guam

Throughout Guam's century-long American occupation, education has been central to protecting US interests on the island and in the region. We can identify at least two distinct ways that the US colonial education system functioned to support the colonization of the island and American interest. Education was initially organized around the specific needs of the US Navy (Naval Government of Guam, 1904, p. 6). Unlike Puerto Rico and the Philippines, which had already been globalized through commerce, political tensions, and war, territories like Guam and American Samoa were comparatively self-sufficient and isolated from the rest of the world. As a result, public standardized education was strongly opposed by the early Naval government since "successful rule meant maintaining rather than altering their way of life" (Go, 2012, p. 87). Instead, through the narrative of the benevolent despot, early US educational policies on Guam focused on teaching English and American agricultural methods (Simoy, 2012, p. 7; 14). They emphasized secular education in American-oriented "training for life" and pushed a curriculum consisting of rudimentary American English, agricultural and vocational training, as well as lessons on American citizenship, geography, and civics (Auyong, 2023).

While the process of Americanization was often presented in terms of benevolent gifting—a value which resonates strongly in CHamoru culture—Anne Hattori (2014) points out that this hid a deeper, more self-interested agenda.

The concern for maximizing the Chamorros' economic potential was driven, however, not by a material deficiency among the islanders, but rather by the fact that the navy wanted the natives to provide food for the roughly 200 Navy and Marine Corps men newly-stationed on Guam. (Hattori, 2014, p. 24)

Similarly, the forceful introduction of English into schools, while unsuccessful for some time, primarily helped the Navy recruit native CHamoru who could work for them. English became promoted as the language of upward mobility and progress (e.g., Guam Recorder, 1924), mainly as a means to hire CHamoru labor — which was relatively cheaper than bringing in more Americans from the continental United States.

While indigenous CHamoru resisted early assimilation efforts through their "passive disapproval of top-down education and other civilian policies," slowly but surely the education system in Guam was formalized and contemporary American-style education was introduced to the island (Simoy, 2012, p. 38). This was partially caused by a major shift in CHamoru's social attitudes towards Americanization after the US liberated the island from the Japanese in 1944. The totalitarian and inhumane 31 months of Japanese occupation made US occupation not only look desirable by comparison but also projected the US as Guam's only hope for freedom (Roger, 1995). Souder (1991) proposed that the US' eventual liberation would instill a relationship of reciprocity onto the CHamoru, thus formalizing their colonial relationship as one of debt between a benefactor and a beneficiary (Souder, 1991, p. 120). Dalisay (2013) supports this narrative by showing how newer generations of CHamoru are more resistant and less trustful of U.S. military presence on Guam compared to their post-war predecessors (Dalisay, 2013).

Because of this newfound relationship with the U.S., the post-war government was able to start investing more resources in education, and Guam's pedagogical infrastructure saw significant changes. First and foremost, the war-torn island justified post-war reconstruction efforts, which allowed the Navy to disperse the native population across the island and build schools in the seven newly created villages of Agat, Agana Heights, S anta Rita, Barrigada, Sinajana, Dededo, and Yigo. Additionally, with the increased number of American military families, more and more children needed to attend schools. This created a need for more experienced English-speaking teachers from outside of Guam. The Guam administration specifically hired "military dependents (such as officers' wives) as teachers, and [offered] contract positions for off-islanders, offering jobs with relocation and living stipends as an incentive for moving to Guam" (Auyong, 2023). This second "group consisted primarily of new teachers, fresh out of college, and many came from cultural backgrounds much different than most Chamorros" (Clement, 2002, p. 15). While in the 1940s, 96% of teachers were native CHamoru, by 1951 less than a third of teachers were. Thus, public schools became an avenue, alongside the militarization of the island, through which many white Americans came to find residence in Guam.

Post-war education also saw English reaffirmed as the mandatory language in schools, and high school became compulsory for the first time. Schools "started creating 'english speaking areas' throughout the building, giving praise and recognition to those students who spoke English only, and providing resources for english-speaking student clubs" (Kupper, 2014, p. 39). Despite previous failures to instill English as the island's main language, by the late 1960s, it became the primary language of the island (Underwood, 1987, p. 281; Clement, 2011, p. 17; Borja-Quichocho-Calvo, 2021, p. 88). Post-World-War 2 education saw CHamoru forced into "a new model of life based on wages," which emphasized "educational aspirations and English as the key to unlocking educational success" (Kupper, 2014, p. 38-39). Thanks to these changes, education was able to Americanize the native CHamoru and change the local culture to be more compatible with the US neoliberal capitalist economic system. The US Census showed that, by the year 2000, only 20% of the native population still spoke CHamoru, and many of them were 55 or older. Importantly, the harms of such a linguistic gap between generations

expand beyond the classroom and compound the already present intergenerational trauma of colonialism. For example, a 1989 study found that the language gap created by the US educational policies was "a significant aspect of family life for both native and Filipino residents currently living on Guam" because it not only threatened intergenerational bonds but also undermined local cultural integrity (Barusch and Spaulding, 1989, p. 76-77).

Hence, the colonial state of education on Guam. Schools and education policies not only act as highways of white immigration onto the island but also provided the crucial entry point for American values to replace and erase local indigenous ones. While today, the Guam Department of Education and the Government of Guam have expressed a desire to decolonize education on the Island, the next section argues that their efforts are insufficient to overcome the colonial state of education on Guam and affirm a CHamoru-centric approach to pedagogy.

Education and Guam's Decolonization Efforts

Education today is recognized as a fundamental pillar of Guam's decolonial agenda. It has two specific roles. First, to provide the people of Guam with the required knowledge and options for decolonization. In 1997, after an unsuccessful attempt to become a commonwealth in free association with the US, Guam's legislation passed Guam P.L. 23-147, creating the "Commission on Decolonization" (COD). The commission's primary mission was to give "the colonized people of Guam the opportunity to exercise their right to self-determination and select a political status that would give them full self-government" (COD, 2020, p. 8). To do so, the commission organized three task forces, each representing one of the three political options for decolonization – Independence, Statehood, or Free Association. Since the ruling of *Davis v. Guam* (2015), which barred CHamoru natives from holding a plebiscite on decolonization, the COD has been specifically focusing on its educational efforts. It is specifically

... tasked with educating the community on the process of decolonization and Self-determination and raising awareness about our current status as well as past and present efforts to change it. The COD also manages three task forces which are responsible for education and advocacy for the different political status options for Guam (independence, free association, and statehood). These task forces are meant to serve as resources for our community to learn more about how Guam could benefit from becoming either the next State in the Union, a Freely Associated State, or an Independent country. (Ibid., p. 17)

In other words, we could say that education's first decolonial function according to COD is to promote the possibility of an "informed decision" on the matter of decolonization (Ibid.). It is an attempt to lay out the nature and consequences of each option in the hope that native CHamoru can fully and comprehensively understand the political map of decolonization.

Second, education is also one of the main avenues for revitalizing the CHamoru language on Guam. As Pilar Lujan writes, "[in] order for Chamorros to affirm their existence on the basis of indigenous rights, their educational institutions must be free of the colonial policies which dilute their efforts to promote their language and cultural rights" (Lujan, 2013). In the 1970s, efforts were made to normalize CHamoru language and culture within the school curriculum, but this proved to be difficult primarily due to the incompatibility of Western education's emphasis on literacy with CHamoru's oral culture. Today, thanks to the efforts of linguists, activists, and politicians, the Guam Department of Education

requires CHamoru culture, history, and language as a part of its K-12 curriculum. Other community members are also promoting this push to revitalize the language in schools. For example, The University of Guam, in an effort to capitalize on these successes, developed a CHamoru Studies for Education Track which prepares students "for careers in teaching CHamoru language and culture in the public school system while meeting the needs of teacher preparation and certification for the Guam Department of Education" (CHamoru Studies Program, 2023).

While these changes will surely affect education and Guam's decolonial efforts beyond their intended consequences, they mainly focus on decolonizing the content of education rather than offering a decolonial approach to education. In other words, these changes are not necessarily inconsistent nor subversive of the Western education system instituted by the US since they conceive of decolonization in terms of pedagogical content rather than in terms of pedagogical process. As Robert Underwood (1989) explains,

If Chamorro culture is conceived in terms of content, then the rituals, the customs, the handicrafts, and even the language can be shifted around as if they were static commodities to be bought, sold, and transferred. If it were to be viewed as a process, then the implications would be far reaching and substantial; the links between teaching and learning, the strategies of instruction, and the process of evaluating students would all come under greater scrutiny. These and other aspects all involving weighty issues of professional education, would have an impact at all levels of schooling, and consequently are not addressed. (Underwood, 1989, p. 40).

By focusing its educational efforts on state sovereignty and language revitalization, the COD does not provide an alternative framework of education that can resist western-style institutionalization and assimilation. Rather, as Robert Underwood and the next section suggests, GDOE and COD need to complement their efforts with nuanced approach to teaching that can elevate the local culture and CHamoru identity as a way of living. That is, truly decolonizing education requires a transformation of the epistemologies and power structures that currently support Guam's subjugation to US Education, into epistemologies and power structures that can affirm CHamoru identity, intersubjectivity, and language.

The Need for More than Content Based Reforms

Despite the Guam Department of Education's efforts to decolonize its curriculum and bring CHamoru language, culture, and history to the forefront, many still criticize it for enforcing a U.S.-based curriculum that encourages Western epistemic and pedagogical standards. Current GDOE standards—which serve mainly Non-Hispanic Pacific Islander (45.4%) and Filipino students (20.4%)—are modeled after US state standards: Standards for English, Math, Science, World Languages, and Physical Education are modeled after Indiana State's standards, Math and Fine Arts after California's standards, Social Studies after Massachusetts', and Technology standards are derived from those of Washington State (GDOE K-12 Content Standards and Performance Indicators, 2010).

Kiesha Borja-Quichocho-Calvo (2021) notes that while taking inspiration from successful states can be beneficial, none of these US-State-based curricula model or even consider the political, historical, or cultural context of Guam and its youth (Borja-Quichocho-Calvo, 2021, p. 116). This in turn is reflected in GDOE's own curriculum despite its efforts.

Of the 76 standards for the 9 content areas taught in the Guam Department of Education ... none mention Guam ... and of the 3,153 Performance Indicators for the 76 standards, “Guam” is mentioned about 87 times in the performance indicators or examples (mostly in the History of Guam standard) ... the regions of “Micronesia” and “Pacific (where Guahan is located) are mentioned only 8 times each ... Finally, CHamoru (Chamoru/Chamorro) – the Indigenous people and culture of Guahan (and the Northern Mariana Islands) – is not mentioned in the 840-page document. (Ibid., p. 117-118).

Anne Hattori (2018) highlights this point more specifically by showing how approaches to teaching history reflect Western militaristic and male-centric attitudes of history education, despite CHamoru culture being matriarchal in nature (Hattori, 2018). As Borja-Quichocho-Calvo (2021) posits “These attempts to align local standards with the USDOE are problematic because they limit the educational opportunities of GDOE students and the teaching opportunities of GDOE educators to what the USDOE believes to be important” (Borja- Quichocho-Calvo, 2021, p. 113).

Such a lack of concern for Guam’s specific historical context and cultural demographic also cultivates an internal struggle in newer generations of CHamoru students. Lazaro Taitano Quinata and Kirk Johnson (2022) explain that:

“[u]pon attending school, Micronesian students are often met with social norms and expectations that conflict with the beliefs and values instilled in them by the cultural education that they receive from their family and community. (Quinata and Johnson, 2022, p. 47)

One major difference is that Western schooling tends to emphasize student’s uniqueness, their individuality, and their standing in relations to others (Markus and Kitayama, 1991; Fiske et al., 1998). This stands antithetically to fundamental CHamoru values like family authority, Ina’fa’maolek (harmony), or Chenchule (reciprocity). Additionally, CHamoru values such as “interdependence, respect for nature, respect for elders, and respect for social position as inafa’maolek” are also absent from US educational content and pedagogical approaches. (Misco and Lee, 2012, p. 24).

Importantly, GDOE’s content-based reforms do not (and perhaps cannot) critically question US-style approach to education. They rather promote “a more sterile learning environment, one where teachers are teaching to the test or simply using US-based textbooks and where students just follow what their teachers tell them to do, without being critical of the course content” (Borja- Quichocho-Calvo, 2021, p. 127). As Borja-Quichocho-Calvo (2021) further explains

When the colonized do not question the colonizer and the colonizer’s motives, when they are uncritical of the colonial agenda, they remain complacent and potentially become an active part in maintaining and perpetuating the colonial agenda. In the context of Guåhan, CHamoru’ loyalty to the US is often attributed to when the US “liberated” the CHamoru from the Japanese in 1944. Today, many CHamoru are also loyal to the US because of the protection it provides from foreign threats (Ibid.).

While the GDOE may be constrained due to its financial dependency on the US and its status as a colony, these reforms ultimately fail to encourage or motivate native students to critically reflect on the material they are learning. Instead, they promote passive acceptance of the status quo, perpetuating

Guam's colonial situation and depriving new generations of CHamoru students of the critical thinking skills needed to transcend the limitations of colonial education.

To dismantle the pervasive influence of US colonial legacies in Guam's education, decolonial efforts must prioritize reforming pedagogical methods within the local condition of life and fostering critical thinking among students. A decolonial approach should empower students to question not only the content they are presented with but also the underlying assumptions, biases, and power dynamics inherent within the educational system. To borrow the words of Indigenous activist Pam Palmater, GDOE schools "must ensure that the decolonization process teaches children to be critical thinkers and work towards stopping the spread of the colonial infection in our nations so that we can put more energy into our resurgence and nation-building" (Palmater, 2017, p. 78).

In the following section, I propose that implementing Philosophy for Children (P4C) in Guam's public classrooms can offer a transformative pathway toward cultivating the critical thinking skills needed for decolonizing and enhancing CHamoru students' education. Current educational content-based reforms within GDOE fail to instigate a critical examination of the US-style education they endorse. This inadvertently perpetuates a learning environment marked by rote memorization and passive acceptance of the Western Americanized status quo. Despite financial constraints and colonial status, GDOE must prioritize a decolonial approach that stimulates critical thinking among native CHamoru students. This approach entails not only challenging the presented content but also scrutinizing the underlying assumptions, biases, and power dynamics inherent in the educational system. By embracing a pedagogical approach like P4C, GDOE and COD can empower students to dismantle the lingering influence of US colonial legacies, fostering a generation capable of thinking beyond the confines of colonial education and contributing to the resurgence and nation-building of CHamoru culture on Guam.

P4C and The Transformation of Pedagogy within a Westernized Context

So far, I have argued that the content-based reforms presented by the Commission on Decolonization (COD) and the Guam Department of Education (GDOE) are insufficient to encourage a decolonial form of education in Guam. At best, these reforms offer little to no resistance to Americanization, and at worst, they become tools of assimilation. It is difficult to envision how, given the colonial state of exception, native CHamoru could affirm more radical transformations of their education without political sovereignty. However, Taiaiake Alfred argues that "natives gaining control of governing structures is not enough to allow us to decolonize. In fact, without a cultural grounding, self-government becomes a kind of Trojan horse for capitalism, consumerism, and self-individualism" (Alfred, 2009, p. 3). In other words, Guam finds itself within a decolonial catch-22: on the one hand, it needs a radical form of education to engender a radical political project, but on the other, it first needs political sovereignty to realistically institutionalize a CHamoru system of education.

This is where I envision P4C as a strategically useful steppingstone towards decolonizing Guam and its education. Briefly, P4C is a movement in philosophy and education that aims to introduce the cognitive and socio-emotional benefits of philosophical thinking and conversation into primary and secondary education. It specifically emerged out of the 1970s movement to refocus education around elevating students' reasoning skills rather than emphasizing content memorization. This call for change stemmed from the idea that knowledge, like the world, changes. As a result, some reformists emphasized the urgent needs to restructure education around students' ability to think. One such individual was

Matthew Lipman, who sought to encourage philosophical thinking and reasoned dialogue in a community of equal participants through storytelling. According to Vansieleghem and Kennedy (2011), "the aim of P4C for Lipman 'is not to turn children into philosophers or decision makers, but to help them become more thoughtful, more reflective, more considerate, and more reasonable individuals' through philosophical thinking and dialogue with others" (Vansieleghem and Kennedy, 2011, p. 165). How then can philosophical thinking and dialogue among pre-college students help encourage the decolonization of education on Guam? Simply put, P4C can act as "a sort of Trojan Horse wheeled into the ideological state apparatus of Western schooling" and encourage reformative norms of education from the inside (Vansieleghem and Kennedy, 2011, p. 179).

On the one hand, P4C easily aligns with the needs and goals of Western schooling – such as higher test scores, increased graduation rates, stronger teacher-student relationships, and a respectful and motivated student community. There are specifically three categories of benefits that appeal to Western-type schools: 1) cognitive, 2) socio-emotional, and 3) environmental benefits of P4C. First, P4C has been shown to improve students' critical thinking and analytical reasoning skills (Zulkifli and Hashim, 2020; Işıklar and Abali Öztürk, 2022; Pala, 2022). Students who participated in P4C sessions also performed better in general cognitive tests than control groups who received the same education absent P4C sessions (Topping and Trickey, 2007; Faire et al., 2015) – one study specifically showing an increase in inductive and deductive reasoning skills (Leng, 2020). Other studies have made similar conclusions regarding students' higher-order conceptual thinking skills (Whitebread et al., 2005; Jenkins & Lyle, 2010). P4C has also been shown to demonstrably increase students' overall reading comprehension as well as their logical skills in both mathematics and reading (Lipman, 1980; Sharp and Reed, 1992; Gorard et al., 2015; Youssef, Campbell, and Tangen, 2016; Gorard et al., 2017).

Second, introducing Philosophy for Children (P4C) into the school curriculum has also been shown to provide socio-emotional benefits highly desired by schools. The study by Topping & Trickey (2006) demonstrated that pre-college students engaged in philosophical discussions once a week for an hour over 54 weeks, showed increased self-esteem as learners, decreased learning anxiety, and reduced dependency on the teacher. Approximately "half the students reported gains in 'emotional intelligence', particularly in relationships, social behavior, empathy, self-confidence, and self-regulation of emotion. Two-thirds of students reported generalization of effects outside the inquiry sessions... [with] student perceptions... largely confirmed by the teachers" (Trickey & Topping, 2006, p. 599). Gorard et al. (2015) have shown that students participating in P4C lessons demonstrate improved listening and speaking skills (Gorard et al., 2015). P4C has also been shown to decrease bullying in school environments (Tangen and Campbell, 2010), promote personal growth, community building, and violence prevention (Makaiau & Freese, 2013; Momohara, Sugimoto-Matsuda, Hishinuma & Chang, 2012; Makaiau, 2010).

Finally, P4C has been shown to improve the general learning environment in schools. Studies have shown that P4C increases student participation in the classroom (Miller, 2013; Leng, 2020) and makes learning more meaningful for students (Meir and McCann, 2016). In one of the most comprehensive implementations of Philosophy for Children at Buranda State Primary School in Australia, it was found that:

"The changes at the school over the space of nine years include a significant increase in enrollments, improved programs and facilities, improved work practices, a very supportive

school community and, most importantly, demonstrable, improved student outcomes... Significantly improved outcomes have occurred in the social behavior of the students. There are now few behavior management problems. Students are less impatient with each other; they are more willing to accept their own mistakes as a normal part of learning and they discuss problems as they occur. Student interaction and behavior outside of the classroom reflect the cooperative environment of the classroom community of inquiry. Bullying is seldom an issue" (Burgh, Field, and Freakley 2006, p. 202).

As a result, P4C has not only been associated with enhanced student learning but also with increased school achievements, test scores, and a stronger culture of learning and thinking – all of which appeal to Western-style schools. Above all however, it is perhaps P4C's ability to increase test scores that is specifically valuable for entry into the public school system.

However, on the other hand, "philosophy for children does not just appear as a solution to a problem" (Vansielegem and Kennedy, 2011, p. 180). Rather, "it emerges within a given field of experience, where it combines with other coexisting theories and practices that give it a history and a determination as well as constituting it as an opening to something new" (Ibid.). In other words, P4C's emphasis on philosophical reflection and dialogue means that students' learning experiences emerge from within the immanent conditions of the conversation and its participants (i.e., the given field of experience) rather than being predetermined by the institutionalization of a curriculum. This context within which students and teachers can immanently create the conditions of their learning is commonly referred to as the "community of philosophical inquiry" (CPI) in the P4C literature. According to Kennedy and Kennedy (2011), the CPI is "an intentional speech community in the form of a relatively stable and regularly attending group of people who meet in order to dialogue with each other about philosophical concepts—by which we mean common, central and contestable concepts like truth, justice, friendship, economy, person, education, gender, and so forth" (Kennedy and Kennedy, 2011, p. 266). It is this CPI that allows P4C to operate as a strategic steppingstone towards a decolonial form of education – despite fitting the needs and goals of Western schooling.

Kennedy and Kennedy argue that the CPI provides three avenues for reformative agency in education. First, it promotes a radically different epistemology than the traditional Western classroom offers. Knowledge in the CPI is "understood in great part as a social phenomenon—something that we argue, deliberate, and decide to be the case together; we arrive at knowledge through 'thinking for ourselves and with others'—a process of self and mutual interrogation" (Ibid., p. 270). Rather than presenting it as complete, settled, and authoritative, the CPI presents knowledge as a social process where every member is considered a credible epistemic agent worth engaging with. In other words, secondly, the CPI encourages community building and communal thinking in and through the immanent actions and engagement of the participants. It emphasizes

a distributed intelligence, in the sense that the resources through which the argument is constructed—both cognitive and dispositional—are not located in one person, but are potentially present in each member, and are expressed through interaction and exchange rather than as univocal propositions. (Ibid.)

The teacher and textbook are no longer relegated as the sole possessors of knowledge who gift it to the students from their ivory tower, and the classroom is no longer a space where students are subjugated as passive recipients of knowledge.

The restructuring of knowledge as a social phenomenon together with the redistribution of agency across the participants entails that the CPI is an "open, emergent, self-organizing system" (Ibid., p. 271). Rather than providing a standardized education where every student, every class, every year covers the same curriculum and touches upon the same ideas, the "ecological, non-linear, and irreversible" nature of the community of philosophical inquiry opens the curriculum to dynamic reinterpretation. In the CPI, the conceptual content and ideological structure of education re-enter "human practice, where it is challenged by context and experience to justify the new understanding of it" (Ibid.). Knowledge can now be experimented on, put into different perspectives, and critically engaged with in such a way as to highlight the conditions for its production and appearance in certain spaces.

In this way, the community of philosophical inquiry "provides us with the theoretical material with which to reconceive schooling as a liberatory practice, not just on the political, but on the ontological and epistemological levels" (Kennedy, 2009, p. 48). On the one hand, P4C is capable of infiltrating the colonial context of Guam's education system by appealing to its Western values and goals. On the other hand, by presenting knowledge as a social, anarchic, and dynamic process, the community of inquiry is also able to offer an educational environment that fosters critical thinking, self-confidence, and a sense of togetherness. Thus, P4C and the CPI together provide an alternative approach to learning that can both be adopted within but also disrupt the traditional style of Western teaching that exists in many public classrooms.

Decolonizing Guam's Education One Thought at a Time

Given the colonial condition experienced by the CHamoru and other Pacific Islanders on Guam, many indigenous scholars advocate for grassroots and culturally centered decolonial initiatives to rectify the deficiencies of the USDOE's curriculum on Guam. The prevailing state-centered discussions of political freedom and democratic sovereignty are already contaminated by American colonialism and the subjugation of indigenous peoples (Alfred, 2009). Therefore, instead of pursuing a top-down, state-centric approach to decolonization, efforts should focus on what Borja-Quichocho-Calvo calls "decolonial acts of resurgence."

These decolonial acts have ranged from large-scale actions — such as protesting English policies and proposing and implementing policies — to more everyday, subtle ways such as greeting students at the classroom door *gi Fino'* CHamoru and incorporating CHamoru language and values into class lessons and everyday conversations ... in the GDOE context, acts of resurgence have contributed to the practice and perpetuation of CHamoru culture and history and have been part of the resurgence of our CHamory community as a whole, "the healing and strengthening of our community on our own terms" (Borja-Quichocho-Calvo, 2021, p. 138).

Provided the theoretical and practical strengths of P4C for subverting western styles of education within western pedagogical institutions (like GDOE), it becomes evident that P4C may encourage CHamoru decolonial acts of resurgence in public school classrooms. It therefore remains for us to lay out how exactly it is capable of promoting a decolonial pedagogy on Guam. Put more simply, how can P4C and the CPI provide an alternative style of pedagogy that can 1) foster critical thinking (especially

around the colonial status of Guam and its inhabitants) and 2) affirm CHamoru culture and way of life in pedagogy despite the lack of political sovereignty needed to bring about structural change? In what follows, I propose that P4C can productively increase grassroots “decolonial acts of resurgence” within GDOE’s public classrooms in two ways: 1) by expanding the scope of epistemic credibility and 2) providing an alternative standard of judgement rooted in the community rather than traditionally recognized forms of expertise.

First, P4C and the CPI radically redefine the ontological scope of knowledge within learning spaces, thereby offering the potential for restructuring the hierarchies of epistemic credibility within western classrooms. Instead of prioritizing institutionally recognized knowledge in Western education, the open-ended and communal nature of the CPI allows for non-traditional knowledge and wisdom to become integral parts of the learning process. This expansion of the scope of knowledge within the CPI in turn enables the redistribution of authority within the educational experience. By expanding the domain of knowledge, P4C also broadens the pool of credible epistemic agents.

Second, P4C and the CPI provide an alternative space where the standard of pedagogical reasonableness is derived from the community of participants rather than from standards of excellence created thousands of miles away for a different student demographic. As mentioned earlier, P4C aims to create more reasonable individuals who can navigate the ambiguity of social (colonial) life more thoughtfully. However, it is important to address what exactly is meant by reasonableness, since white American standards of reasonableness can reaffirm racial and colonial structures of power (Rainville, 2001; Chetty, 2018). However, in P4C reasonableness is “constituted and understood through dialogic inquiry in a community of inquiry that is ... governed by imposed or negotiated ground rules which are intended to be reasonable and foster reasonableness” (Chetty, 2018, p. 45). In other words, the reasonable standard of education within the CPI is derived from the active and immanent negotiations of the participants (usually expressed in and through their philosophical insights and reflections) within the community of inquiry. Given that white Americans make up only about 7% of Guam’s population, the CPI in Guam classrooms can promote a standard of reasonableness rooted in the diversity of the island – which according to the 2020 census is 37.3% CHamoru, 26.3% Filipino, 7.1% White, 7% Chuukese, 2.2% Korean, 2%, other Asian 2% other Pacific Islander, 1.6% Chinese, 1.6% Palauan, 1.5% Japanese, 1.4% Pohnpeian, 9.4% mixed, and 0.6% other (US Census Bureau, 2022).

This translates to at least three potential decolonial acts of resurgence within GDOE public classrooms. Firstly, P4C can authentically promote indigenous knowledges as equally (if not more) legitimate for indigenous life. Within the CPI, Western European Anglo-Saxon epistemologies are no longer prioritized but instead challenged and explored to their limits, thus creating more space for indigenous knowledges to organically appear in philosophical discussions. Secondly, the increased recognition of indigenous knowledge in the CPI also suggests an expansion in the range of available experts that can enter the classroom. While western schooling typically acknowledges expertise through institutional validation, the communal aspect of P4C allows for more community-acknowledged experts to participate in philosophical inquiry with the participants. In Guam, this means that culturally significant CHamoru figures such as matriarchs, makåna or suruhånu/suruhåna (CHamoru Indigenous healing doctors), poets, seafarers, weavers, and others can be reintegrated into pedagogical spaces as legitimate epistemic authorities. Finally, the combination of both resurgent acts means that P4C can also empower indigenous students to overcome “colonial mentality” – i.e., the internalization of Indigenous inferiority and American superiority (David, 2011). While the current GDOE curriculum

emphasizes the superiority of US epistemic standards and American culture, P4C's ability to reintroduce indigenous knowledge and experts into the classroom means that it can also provide a space where CHamoru identity and language are elevated to the same level as (or perhaps even higher than) American identity and English. For example, rather than encouraging traditional western styles of debating, P4C on Guam can encourage philosophical dialogue in CHamoru specific forms of debate such as "Kantan Chamoritta" (Singing CHamoru woman) – a traditionally "four-line poetic verse sung to the tune of a single melody, with slight regional variation" which "serves the function of expressing, in a culturally acceptable way, thoughts that otherwise would have been difficult or sensitive" (Souder, 1993, p. 189-190).

Therefore, integrating philosophy for children into the public-school curriculum can foster strategic steps towards decolonializing education on Guam by simultaneously resisting Americanization and rooting pedagogy in the local CHamoru's history, culture, language, and identity. P4C's twofold capacity to both infiltrate pedagogical spaces by aligning with their institutional objectives and challenge institutional power dynamics from within renders it a potent tool for instigating resurgent acts of decolonial education within GDOE public classrooms. As Erick Padilla-Rosas (2023) explains

As a movement that seeks to liberate the child from this inequitable power dynamic, P4wC came to give voice to the silenced: the children. So, first of all, this movement is already recognizing and letting the other question us with their voice. This is fundamental, although not sufficient, to make a philosophy of liberation for/with children. (Padilla-Rosas, 2023, p. 22).

Importantly, what makes P4C on Guam potentially liberating and affirming of an indigenous way of life is the fact that CHamoru have more than 3,500 years of continuous cultural identity that unites them in their decolonialization efforts. While not all CHamoru are necessarily united around what decoloniality should look like for the island, P4C can tap into the strong cultural history of the Island's indigenous people to provide a space for debate and critical thinking that emphasizes CHamoru culture and self-determination. In other words, since CHamoru are actively fighting Americanization through their culture, it entails that P4C can be assimilated by local indigenous educators and activist to encourage a CHamoru centric decolonial education.

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Academics' opinions of what would enhance the student experience at university

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Abstract

Providing positive student experiences at university is integral and should be a priority as higher education institutions need to improve and evolve in a competitive landscape. In a university such as the University of the South Pacific (USP), co-owned by 12 Pacific Island Countries, USP needs to be responsive to the needs of member nations and beyond. This study investigated what teaching staff at the USP agree to be important in improving the student experience. There were 7 academics involved in a nominal group technique (NGT), a consensus-building process, and 3 of them were interviewed the following week. Staff agreed on the need to incorporate active teaching styles that encourage student participation and learning. The second factor staff members agreed on was to put yourself in students' shoes to be able to meet their learning needs better. In addition, is to encompass diversity on campus including those with disability and context. Another factor agreed by staff members was that the assessments need to be distributed properly and not overly assessed in order to avoid overloading and congestion towards the end of the semester. This study also found the need to have student surveys that gauge student experiences across various areas such as the library services, cafeteria, bookshop, and sports rather than just teaching and learning. This has implications for university practice. That besides the overall student experience survey at the end of the semester, and which often asks about the teacher rather than student learning and experience, there should be specific surveys on various services at the university.

Keywords: student experience, higher education

Introduction

Kolb and Kolb (2005) argued that the primary focus for improving learning in higher education must consider students' experiences and must undertake efforts to engage them in the learning process. The authors examined the current developments in research related to experiential learning and thought about how it can deepen experiential learning in higher education. Kolb and Kolb (2005) presented the notion of "learning space as a framework for understanding the interface between student learning styles and the institutional learning environment" (p. 193). Kolb and Kolb (2005) suggested that learning can greatly enhance students' ability to learn from experience through the creation of space for them to take charge of and be responsible for their learning. In support, Sybing (2019) stressed that in order that students take charge of their learning, teaching methods utilized, and the university

environment should influence positive learner outcomes in higher education. Sybing (2019), stated that “applying at least some of the principles of active learning and rapport building to large university classrooms holds some promise for lecturers connecting with greater numbers of students” (p. 31).

Sybing (2019) stressed that classes should be welcoming and the lecturer needs to uncover what each student brings to higher education. Valuing the participation and knowledge that students contribute to the tutorial is one of teaching strategies for creating rapport. More importantly, is the teacher’s general philosophy that contributes to building rapport in the class where the students’ learning environment encourages them to respond constructively which may create pathways to student success. Therefore, it can be said teacher practices establish “rapport, center education around the needs and knowledge of learners, and equalizes power dynamics between teacher and student are the precursor to pedagogies that respect and negotiate differences among all learners” (Sybing, 2019, p. 33). The study supports a larger pool of discussion related to how the nature of the university classroom and the kinds of teaching and learning that may continue to be the most effective learner outcomes at the tertiary level. He and Xiao (2022) stressed that students’ retention and student experiences when they first enter a university matter in persistence. According to He and Xiao (2022), the traditional way of teaching does not adequately engage students thus the need for strategies that increase the retention rates. These strategies can include a “digital program orientation, a student panel discussion, an experiential learning activity, and a teambuilding and collaboration strategy” (He & Xiao, 2022, p. 1), and many more where students are active participants. It is through the understanding of the programs, a sense of belonging, and classroom engagement, via classroom techniques, that increased the retention rates of higher education students.

Methodology

This study used the Nominal Group Technique (NGT), a prioritization tool, on seven academics of the University of the South Pacific (USP) in the first phase. In the second phase, authors utilized the results of the NGT to probe further questions to three of the sample in interviews. This study incorporated Varga-Atkinsm Bunyan, Fewtrell, and Mclsaac’s (2011, p. 4) processes in the NGT which are:

- Introduction – facilitator introduces the purpose of the session, the rules and structure.
- Stage 1: Individual responses –responses are collected on the chosen topic in a silent generation phase.
- Stage 2: Clarification and consolidation – responses are read out and clarified one by one by participants, then similar/same are merged under one response.
- Stage 3: Ranking responses – participants rank their top five responses individually in order of importance.
- Ranking results are calculated and shared with the group.
- Closure and thanks.

In this study, authors conducted the NGT via zoom and Michel et al. (2021) asserts that it can be done virtually and used the nominal technique via zoom to participants from eleven countries in Europe to determine the pace of delivery of COVID-19 vaccination programs. Pre-prepared excel sheets were used as organizers during the NGT process online. Round robin contributions and conversations were recorded as well (Michel et al., 2021). Moreover, Dunlop (2021) organized three different NGT sessions to Early Childhood educators in Scotland via zoom to gauge their leadership experiences, their beliefs and practices, and determine ways in which ‘on-the-job’ options could be taken for leadership

development. Reyzer and Richardson (2022) used the NGT in a study that investigated legal history of the disability services in New South Wales via zoom. They found it to be very useful and beneficial to gather important data some of which were not expected (Reyzer & Richardson, 2022). Thus, this study had the NGT with staff via zoom as it was convenient to have it on zoom for the staff members.

Jones (2004) stressed that the use of the NGT is very useful in educational research including higher education. Jones studied postgraduate candidates from an Australian university using the NGT process, as they were not attending the seminars meant to help them. Through the NGT workshop, it was found that what postgraduate students wanted covered are not necessarily what the faculty thinks are important for them. Attendances for the seminars increased when those priorities identified by the NGT process were pursued (Jones, 2004). Jones (2004) outlined a few advantages encountered in the NGT application, which were its capability to generate a sizeable number of ideas, being able to stimulate creative ideas, and the ease at which participants will also be able to view the results. In addition, it ensures the NGT processes are not dominated by only certain participants, it uses minimal resources such as a venue, markers, papers and pens; and it uses the time of the researcher efficiently (Jones, 2004). On the other hand, Jones (2004) pointed that the disadvantages and limitations of the NGT are that there could only be a topic that can realistically be covered in the session and participants may not have time to think of the topic in depth. Moreover, the time commitment that participants will need to come to a venue and spend at least half of the day and there may be the lack of generalizability to the rest of the population (Jones, 2004).

Data Analysis - NGT

The authors explained the purpose of the NGT and the steps that are involved. That their participation is anonymous and acronyms will be used to indicate their opinions on the article. Authors recorded the initial responses from participants on the question of what they feel are important in improving the student experience of students at USP. Participants were given time to think of their responses and then each of them were asked to explain a factor in round robin fashion until all their ideas are exhausted. Participants were asked to rank the responses. Varga-Atkins et al. (2011) suggested a top five ranking but this study utilized Hall's (2014) top three ranking system that gives the top rank item 3 points, second rank 2 points and the third ranked idea to receive 1 point. These would be added to reach a consensus of what is agreed priorities. The eventual results are provided on the table below.

Table 1: NGT Workshop Results from the Virtual Responses from Staff

NO.	IDEAS	RATING 1-3	TOTAL
1.	Diversity in the curriculum, sporting opportunities and food etc.	2	2
2.	Sensitivity toward previous/prior students learning		
3.	Student disability- student access to the campus facilities and the curriculum		
4.	Establish a relationship, is approachable. Relationship building with each one [student and staff]	2	2
5.	Students learning – Contextualising the curriculum to Pacific and the industry		
6.	L & T- Distribution of gadgets [Tablets] subsidizing it		
7.	Mode of communication – Use of English as a barrier to communicating of ideas.		
8.	Need to be sensitive to the family, and individual visions and ambitions.		

9.	A balanced distribution of assessments-avoid heavy weighting assessments towards the end of the semester especially for those courses that have an exam	2	2
10.	Teachers need to cater to the students' learning styles. Example Moodle page to be user friendly.		
11.	Teachers need to be upskilled to foster learning or to improve students' learning-C19. Particularly with the use of learning technology		
12.	Putting ourselves in students' shoes.	2+3	5
13.	Opportunities for student to union involvements. Holistic involvement and learning.		
14.	Unity in the diversity. Recognizing the diversity that exists in classroom		
15.	Online courses must be scrutinized so that possible ambiguity can be erased. Wordy information can be summarized so that students do not lose interest in the content.	1	1

16.	Questioning is an important teaching and learning tool to foster learning. Some good questions to enhance thinking skills.	1+1+2	4
17.	Active learning teaching styles. Teach them so they are engaged in learning. Student participation is vital as opposed to teacher centered learning.	3+3+3+3	12
18.	Having workshops, DRC to better understand the students' learning needs.		
19.	Ongoing student experiences survey. Their feedback will assist to improve the course/unit and on campus.	1	1
20.	Upgrading of knowledge, via reading, gadgets. To produce life-long learners.		
21.	Collaborative learning. Encourage student presentation, teamwork.		
22.	Tutorial rooms to be upgraded with multi-media-we have to be in par with the technological advance world.		

23.	Building on industry and engagement. Field trips, attending to the professional body and preparing them for the work environment.		
24.	Increased student engagement via liaising with student bodies at the university. To boost their cultural understanding of each other.		
25.	Online courses' lecture and tutorial recordings must be updated on Moodle page in a short period of time.		
26.	Feedback to students on their learning. Sometimes the students feel disconnected to their learning.	1	1

Table 1 indicates that staff were more concerned about the pedagogy and adopting active teaching styles and putting yourself in students' shoes to better cater for them. There were also votes for diversifying what the university offers both in and out of the classroom. There were also votes for positive staff-student rapport and assessments that are weighted and spread properly through the semester.

Data Analysis - Semi-structured interviews

Interviews were done with three staff from the NGT sample to elaborate further on various points from the NGT. The themes were formed from the main ideas from the NGT and interviews. The acronyms beside participant quotes are not actual letters of their names but simply to keep them anonymous. "Semi-structured interviews employ a series of open-ended questions based on the topic areas the researcher wants to cover, and provide opportunities for various themes or sub-topics to develop" (Harvey-Jordan & Long, 2001, p. 219). There is an interview schedule but has flexibility to probe throughout the conversation. Interviews are conducted with each subject and often recorded to allow accuracy of the data (Harvey-Jordan & Long, 2001). Interview questions for staff were:

1. From the NGT, would you like to expand on the pedagogical conversations on active learning, being student-centred, questioning techniques or giving students quicker feedback?
2. There was mention of the need for diversity. Would you like to explain this more?
3. There was concern about the distribution of assessments throughout the semester. Would you like to elaborate more on this?
4. There was this good suggestion for student experience surveys for specific areas of university life. Can you comment further on this?

Pedagogy e.g., active teaching styles, student-centred approaches, student-staff rapport, putting ourselves in students' shoes, online courses not suitable for all, questioning, quick feedback

Staff TW spoke passionately about pedagogy and states that teaching children should not be the task of teachers alone but parents and guardians, and peers have a responsibility. TW believes that, as educators, we are also responsible for nurturing that environment, where we are not viewed as the only teachers, but parents, guardians and peers are all part of it:

Students need involvement in the teaching and learning. In fact, I would think that they are naturally in it. I mean, we are the teachers and you want them to learn. But they are already teaching each other, they were not acknowledging it, and we are the ones nurturing it. (TW)

Moreover, TW emphasized that teaching and learning is a two-way process. Students are learning from us as much as we learn from them:

One thing I like about our cooperative learning framework, is because, you know, it would mean that I'm learning with them too. So, if I'm learning with them, I should be humble enough to let them know you're also teaching me something, then perhaps our pedagogy would be more student-centered. (TW)

Staff BE emphasizes the importance of active teaching styles that gets students to create things and not merely passive recipients of knowledge:

I think that a very effective teaching style that we should embrace is looking at how we can get students to be active creators of knowledge and not just passive receivers of information from teachers or lecturers. I find that when they do share their experiences, when they take the initiative to be part of the learning, they become very active, when you are just dishing out formulas or just dishing out information to them passively, then they are sort of withdrawn from actively engaging in the teaching and learning. (BE)

Staff BE further reinforces that too often educators simply try to cover content when they should build independent and creative thinking for the workplace:

That we're just trying to churn in, churn out the curriculum and just cover topics and syllabus, and we forget that students are there to receive and how well they are receiving and processing, and comprehending all the knowledge that we are sharing with them. The workplace you are more likely going to be put in a situation where you have to create things that teaches you to be an independent learner, that you work on your own with minimum supervision. They can independently search and gather information, and even verify information and become sort of researchers themselves, they are in the process. (BE)

These are critical observations that require educators to shift their mind set, that pedagogy is not the responsibility solely of teachers. Educators are also responsible to find ways to nurture the capability others have to contribute to student learning. That as educators we should get into teaching not only as facilitators but also as learners. Perhaps, effective pedagogy encompasses such belief that pedagogy and student learning is shared responsibility.

Diversity and inclusion e.g., in the curriculum, sport, and food

MY emphasized the needs for inclusion of those with varying abilities and special needs:

Apart from just in terms of the curriculum, sports and food, I think diversity can also be something that can be looked at in terms of the ability. The more abled ones and the less abled. When I talk about ability, I'm including the people who have people who have special needs like we probably need to reconsider the infrastructure first of all, not just the curriculum itself, but the infrastructure as well, how conducive it is, whether it is friendly, whether our footpaths are friendly, the passages from one building to the other. Let's say if somebody's on a wheelchair, will the person be able to independently move from one building to the other? What if there is no one to assist? (MY)

MY also talked about bridging gaps such as in online learning whether those with disabilities need to be catered for:

We need to think about students who are blind, I think we just heard from one of our colleagues, who is taking our special session with a blind student, because currently the online courses everything is not known whether it can be made available. So, I mean, what are the content whether it is in the form of an audio for the blind student? Whether we have courses, whether it is promoted, whether there is sign language being used to teach the same content, and there's so many shortfalls at the moment. (MY)

Importantly, MY institutional attempts to increase retention rates should include those with disabilities:

So, these are some of the things I thought of that to the retention level at the higher education and to make learning more fun and something that will sort of like cater for cater for everyone's need. So that's something that we need to actually think about. (MY)

Staff BE stressed that diversity can come in other forms such as the types of students we receive who could be part-timers, from high school, or working students:

I think diversity is now the global ethos. Every university and workplaces are required to embrace diversity. I think it is important because learners themselves are diverse. Gone are the times, we expect just 90% of the learners to be secondary school students who just came through secondary school education. Now you have part-time working students, those that took a different path towards education, mature students that are coming back to, to learn and so we need to create that diversity in the teaching environment in the curriculum. (BE)

Furthermore, BE also stressed that diversity can be in context as well. The students come from different contexts and the curriculum needs to reflect that:

I think it will be very restrictive, if we are just to limit the context of what we are studying. I think it is always good to see what works in other contexts as well, particularly in the Pacific. Now, a lot of our teaching kind of bias towards Fiji. This is what I experienced as well, when I talk of land use planning. We are talking about land use planning from the perspective of a big city like Suva. You know, we fail to recognize that in Funafuti, Tuvalu is just different. Then, I think if you have students from the Pacific that can't relate because it's not contextualized into theirs, to their understanding of these things. (BE)

BE pointed that diversity can also come in the diverse services on campus such as in sports and food:

So, I think diversity is important and sport and food as well, everyone loves a good place to sort of hang out and then that supports their learning as well. I think a lot of universities are recognizing it's importance that you have these ancillary services like a good coffee place, a good food court and all because that's all an extension of learning that people can meet informally. (BE)

Participants echoed how integral universities encompass inclusion including those with special needs, the different cultures on campus, the diverse contexts and the variety of student types that enrol.

Assessment e.g., balanced distribution of assessments

MY empathized the need to distribute assessments properly throughout the semester and the load of assignments should be fair:

Many times, or we do happen to see that sometimes an assessment that has a heavy weighting is due right towards the end of the semester. Now, I personally feel that many times it can be a problem, both for the student and the facilitators, especially if there's a heavy weighting assessment towards the end. Reason being the student then spends, like needs to actually balance his or her time into preparing for the final exams, while at the same time to conduct research for the final assignment. (MY)

If assessments are not properly distributed and weighted, it causes congestion at the end of the semester and student work may have not be marked well:

Now, I believe that sometimes it can also create problem for the facilitator, because the facilitator needs to mark and the coursework needs to be presented to the student before they actually sit for their final exams. The coursework is not made known to the student. So, the student really doesn't know where he or she stands before appearing for the exam. Now, if that same assignment can be placed somewhere in the middle of the semester or straight after the mid-semester break, that allows the student more time to actually do research and come up with a better piece of work. And then the facilitator gets more time to mark and come up with a realistic mark. So that all that is not only something that needs to be looked into and improved. It's also not only something that will help improve their students' experience, but also, I believe the facilitators experience as well. (MY)

MY argues that when course assessments are not properly distributed, the marking of assignments may not be done properly and there is unnecessary rush to have grades for the assessment board:

Because what happens also, it's natural that students sometimes will request for extension and by the time the final submissions are being made, it's delayed, and then I have a feeling that sometimes justice is not being done in marking the assignments, not just generalizing that it happens in all of you, but it can happen. And just to avoid those type of issues, you know, the flow in the system, we can have the heavy weighted assessments due sometimes it can be like during the mid-semester break, they can prepare, they have ample time to actually liaised with the facilitator and then solve their problems and keep maybe assessments that are not that don't have that high weightings, towards the end so that they get enough time, so the students are not overwhelmed by this assignment that is due, and also, the preparation for the final exams. (MY)

The other argument MY has is that when staff of the course are congested towards the end for marking and are bound to make mistakes and the number of students applying for grade considerations increases:

We are humans, after all, even the facilitators are humans, we are not perfect, we have our own flaws. It is natural that sometimes when people were under pressure or trying to finish up too many things, right in the end, that we will make mistakes. Then, that means not risking the student and a good piece of paper can be overlooked, provided a grade that is not expected by the student. Maybe just to save all those problems of students asking for a re-mark applying to reconsider their grades and things like that then the number of incidents can be reduced. If that happens, maybe that's what I feel. (MY)

Staff BE advocates for assessments that are varied and balanced and understands that students may have connectivity issues:

I have experienced that some courses are very overly assessed. Students have other difficulties of learning, you know, like accessing good, secure internet. And if you are having those assessments that requires them to post something daily, that's the sort of kind of unrealistic things, so we have to think about all of those issues as well. So, I think assessment should be balanced, in the sense that you can target different skill sets. If say writing essays. I am not a fan of essays, because I find students don't read now. So, they tend to write horrible essays, but they may be good in something else. So, it is always good to, to kind of balance the assessments. (BE)

Staff BE stated an important suggestion that programs plan their assessments and if they target the outcomes intended:

Okay, so I think assessment planning is very important. I think assessment overall, in terms of the whole program, you need to set it out, so that you have students that are exposed to different types of skill sets that are being assessed. That needs to do with their reading and comprehension, to do with how well they write essays, numeracy skills and creativity and verbal communication, and whatnot. I think as coordinators, we can set those assessments to target all those skills as I think that is important for good learning experiences. (BE)

Participants agree that assessments should be varied, balanced and distributed logically during the semester to avoid congestion at the end of the semester. When there is congestion at the end of the

semester, poor and rushed marking occur and that dilutes students' learning experience. Moreover, there can also be accountable issues such as students not knowing their coursework totals before going into exams.

Ongoing student experience surveys e.g., on the course, library, restaurants, and support services

MY agrees that surveys should be done on specific sections of the university including the Student Learning Support Services:

I think in terms of that their students also need to be asked the question, how many times in a year or in a semester, do they actually approach the SLS team? To get all this sort of help? How many of them? No, although the announcements are made in the emails, we do get announcement, I mean, how many of them actually use it? Or how do they go about using it or those type of things that can be also placed in the survey. So that it helps the facilitators and also the SLS team to actually analyze how much more work and advertising they need to do in terms of reaching out to the students so that they can learn the various skills that needs to be learned. (MY)

Staff BE cautions that surveys are surveys unless we do something about the feedback:

I think for the feedback there needs to be something needs to be done with a survey feedback to improve our learning and teaching. Sometimes it just ends with a survey with collecting of the data and nothing are done with them. I think that it needs to be taken further, and to help with our teaching. But I think course survey is very important. Students, because they are the receivers of our teaching, they can be a good or good critic, as well as they can tell us okay, this is very exciting when you presented on this topic and how you presented it. This is not really exciting. Maybe the content is important, but the delivery is not that exciting. So, I think those are important that help us as teachers as well as develop our skills and improve our teaching styles as well. So that the survey of the course and also library and other services as well. That will probably also be important for students so they will have their surveys on that as well. (BE)

Participants agree that student experience surveys can also be conducted at specific sections of the university such as the student learning support services, library, cafeterias, or bookshop. However, it was voiced that surveys should not simply be surveys unless actions are taken to deal with gaps that would improve the student learning experience.

Discussion

The discussions will be covered in the themes of the interviews which were based on the NGT results.

Pedagogy e.g., active teaching styles, student-centred, student-staff rapport, putting ourselves in students' shoes, online courses not suitable for all, questioning, quick feedback

This study found that academics see the importance of active learning styles that are student-centred and where there is positive staff-student rapport and being to put oneself in the shoes of students. In higher education, Bovill (2013) states the need to conceptualize students as co-creators of learning which could range from course design, being involved in the design of the assignment and marking criteria or setting the learning outcomes. That students get to be more active participants of their own learning. Higher education educators have the responsibility to ensure students realize "that the greatest value of higher education includes opportunities to be challenged and to change the way in

which they think by taking greater responsibility for their own learning; and that this is most effectively developed through students becoming more meaningfully involved in learning processes rather than simply being handed pre-packaged forms of knowledge” (Bovill, 2013, p. 6). This means also that the educator would need to espouse that they do not ‘own’ the curriculum. Educators need to listen to students’ ideas and opinions and vice versa as collaborative partners (Bovill, 2013).

From the NGT and interviews, there was consensus that lecturers should put themselves in students’ shoes to understand them better. There is an ongoing effort to assess and enhance students’ engagement in higher education. Most of the researcher’s efforts to encourage engagement and commitment areas for students to learn by developing the ability to care about others and things around them (Barnacle & Dall’Alba, 2017). Barnacle and Dall’Alba (2017) suggested that through the lens of care, the authors intend to broaden the present beliefs of students’ engagement and experience in their learning. The continued need to support and challenge students inspires them to be confident in what they are learning and who they are developing.

According to Barnacle and Dall’Alba (2017), caring is a unique relationship that one has with another individual. It entails true honesty about who they are and the condition in which they find themselves. Thus, lecturers can guide students in an approachable manner for each struggle or success students understand in their learning. Lecturers can pay specific attention to students in areas that are really challenging for them rather than on areas the students can or are able to comprehend. This can provide an important platform for “directing teaching efforts appropriately in enhancing learning” (Barnacle & Dall’Alba, 2017, p. 1330) and the need to respond accordingly to the students on what students are experiencing. Barnacle and Dall’Alba (2017) claim that it is equally essential to be attentive to students and their learning in informal discussions and course-related exchanges. They further proposed that teachers have substantial potential to foster the students learning and their commitment to this learning. Hence, in this process, the primary step would be for lecturers to look out continuously for what interest’s students’ thoughts and to find out strategies to utilize them for learning.

This study found that staff advocate the notion that pedagogy and student learning should be seen as shared responsibility. It should not be seen as the responsibility of the educator alone. Moreover, that educators should enter a classroom as a learner as well. That it is an important mind set to view yourself as a learner rather than just being a teacher. This is in line with what Nerantzi, Middleton, and Beckingham (2014) found that facilitators in higher education should view themselves as co-learners where there is a more horizontal rather than a vertical learning ecology. This should occur in an environment where support and collaboration are fluid, genuine and effective. Santosa (2022) stresses the urgency that teachers should see themselves as co-learners rather than one who is the main source of knowledge to transmit to students. This is critical in a disruptive era where technology and society are changing really fast and schools often cannot cope. It is imperative to create meaningful learning experiences for students to prepare themselves for the future with the 4Cs of critical thinking, communication, collaboration, and creativity (Santosa, 2022).

Ahmad (2017) made the point that the educator who is a co-learner asks, ‘how can I improve my students’ learning?’ rather than asking ‘how can I improve my teaching?’. The co-learner is a life-long learner and cultivates critical thinking, creativity and trust from students. In return, students may develop into life-long learners themselves and have the confidence to be successful in the real world

(Ahmad, 2017). Sharma (2015) reinforces that the basic criteria for a teacher should be lifelong learning. Being learning partners to students does not mean the teacher stops leading the class but it means to create space for students. Katz (2021) accentuated that teachers should be co-creating learning experiences with students and respect that learning should not be a one-way process. When there is co-creation of knowledge and experiences between the teacher and students, it has the potential to enrich and transform the learning of both.

Diversity e.g. in the curriculum, sport, food, disability, context

This study found that staff participants feel that inclusion is an important matter that should cover various areas of difference such as those with disabilities, cultures, types of students, and diverse contexts. Having a diversity of students around is essential because students get the opportunity to share their identity and share things that matter to them and their personal experiences which they get to share with people who may have a different experience than they do. In other words, culturally responsive education is a driver for improved performance of “underachieving ethnically and racially diverse students” (Gay, 2013, p. 67). According to Gay (2013), a culturally inclusive curriculum is an approach to teaching and learning that develops an understanding of cultural diversity and uses one’s cultural heritage, experiences, and viewpoints to promote quality student experiences at the tertiary level. It helps to develop more compassion towards experiences that one does not have exposed to. In other words, diversity enhances the holistic development of oneself. Therefore, if students are not integrated into the diverse environment, and diverse education they probably would not be able to survive as much in this world or in any society for that matter. This is in line with what Wyatt-Nichol and Antwi-Boasiako (2008) study found that students should be able to work efficiently in diverse societies, and they must understand the people they serve.

The curriculum at the university should incorporate the fundamentals of diversity into the current courses if there is no chance of offering stand-alone courses related to diversity. Wyatt-Nichol and Antwi-Boasiako (2008, p. 89) further stressed that “the lack of diversity among students or faculty is often used as a blanket defense for lack of coverage of diversity issues in the curriculum”. The students all long for inclusiveness, acceptance, and a sense of belonging not just at tertiary education but in all facets of their lives. So, universities need to integrate diversity in every activity, occasion, course, or food offered or organized events. The effect of diversity in education does not only foster quality student experiences but it lasts a lifetime. The inclusion goes beyond that. Additionally, inclusion can also mean having disabled faculty, staff, and disabled people at the administrative level. This will ensure a meaningful voice at the table and meaningful leadership roles. Diverse hands make a better decision, increases awareness, gives unique ideas, it creates solutions to many problems, and can even give the opportunity to think outside the box. More so, including students or any individual with a disability at any level allows others to be empathetic to people’s situations and builds a strong connection, tolerance, and compassion among each other (Wyatt-Nichol & Antwi-Boasiako, 2008).

Assessment e.g., balanced distribution of assessments

This study found that staff needs to distribute assignments evenly across the semester. Sometimes certain courses get overly assessed and in others, it needs to be varied. For example, there could be courses that use a set of essays and an exam at the end, when the types of assessments could be more varied. The caveat is that when assignments are congested at the end of the semester, markers could rush marking and likely to make mistakes. This then leads to increased appeal by students for

re-consideration of grades. In addition, where there are exams, students often do not see their coursework totals prior to sitting an exam.

Educators need to take a balanced approach toward assessment distribution. One where multiple measures were employed to provide a balanced picture of a student's learning. In other words, it is not assessing students against learning outcomes using only one or two measures but a variety and possibly including active and authentic assessments as well. This is in line with what William (2011, p. 11) found "for assessment to effectively support learning, it must provide specific information, not only to direct further teaching but also to encourage student engagement in productive learning". There are different forms of assessment such as formative, summative, and or benchmark that can be used in higher education. Thus, the notion is not to have an equal amount of each type of assessment but rather to have much different information from varied assessment types as this will ultimately help educators to guide their teaching practice that will foster improvement in student outcomes (Rasooli, 2021).

Ongoing student experience surveys e.g., on courses, library, cafeteria

This study found that staff participants want student experience surveys on various services on campus such as the library, bookshop, student learning support services, or the Student Administrative Services. Moreover, they want a more effective alumni survey that gains knowledge of their experiences. Importantly, there was caution that surveys can simply be surveys unless actions are taken to address them. In a survey of students at an UK higher education institution, Webber, Lynch, and Oluku (2013) found that many students do not complete the student experience survey at the end of the semester as they feel nothing positive will come from the feedback they would give. The students are often dissatisfied with the facilities and services and if something could be done to them than filling forms every end of the semester and for which little is addressed. When students feel let down, they do not find any point in completing the surveys (Webber et al., 2013). Webber et al. (2013) stress that it is crucial to show that the university addresses feedback from the student experience survey, whether they were positive or constructive criticisms. Besides whether feedback given by students were addressed or otherwise, the focus of the student experience surveys themselves are vital.

Winstone, Ajjawi, Dirx, and Boud (2022) studied various student experience surveys from nine countries and found that the key agents in the survey feedback are teachers rather than students or peers, except for a few items. In other words, "almost all items positioned students as having a passive role in feedback processes, on the receiving end of what teachers do" (Winstone et al., 2022, p. 1531). Winstone, et al. (2022) were very transmission-focused and based more on the effective teaching of the teacher and rather than the learning of the students. This, therefore, puts students in passive than active roles in the process. Student experience surveys run the risk of being an audit of formal transmission rather than being learner and learning focused (Winstone et al., 2022).

Schlesinger, Cervera, and Perez-Cabanero (2017) found studying the alumni of two Spanish universities that to build loyalty graduate satisfaction, trust, shared values and image are important. That the alumni should be considered as an integral stakeholder as they mirror the image of the university in the outside world and understanding what they experience can help the university design competitive strategies as a service organization. There needs to be a stakeholder communication strategy that includes the alumni as they the image of the university at the workplace (Schlesinger et al., 2017). Dumford and Miller (2015) "recommended that institutions survey both students and alumni to

achieve a more complete picture of the educational experience” (p. 5). This suggestion supports what the author found in this study that current students are surveyed on various services at the university as well as its alumni. This would give a fuller measure of the student experience not only from those currently in the university but also from those in the workplace. Current students are a population that is readily available so it may be convenient to conduct but the alumni can add useful information with the work experience they have had (Dumford & Miller, 2015).

Conclusion

The staff being part of this study see the provision of a conducive student experience to include matters that involve effective pedagogy which puts importance to active learning, a good student-staff rapport, being able to put yourself into students’ shoes, and offer quick feedback to students. Related to these as well is the need to spread assessments over the semester and that those assessments are not excessive but suitably loads students. The suggestion for a student experience end-of-semester surveys that encompasses a variety of areas such as the library, restaurants and cafes, recreation and sport, facilities, and so forth, to be included, not just on teaching and learning, is valid. The current USP end-of-semester student survey captures lecturers’ quality of teaching rather than on the student experience and learning. The student experience is more than just the classroom and the student survey should include these other aspects of university life. The student experience should encapsulate a diversity in the curriculum inside and outside of the classroom. These end-of-semester student surveys often have very low response rates and if there were responses, whether the university and schools are doing anything about them is another question.

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Rehumanizing STEM for Students in Micronesia: A Case Study of a Guåhan Math Teacher's Aqua-Robotics Project

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Abstract

This article addresses the existing research gap concerning successful STEM teaching and learning in Guåhan, focusing on the problematic implementation of Eurocentric STEM teaching practices despite its racially diverse demographic. Recognizing the pervasive influence of white dominance and supremacy in STEM education, the article emphasizes the need to humanize math pedagogy, particularly through culturally relevant and responsive teaching frameworks within the broader context of rehumanizing mathematics (RM). The study's primary objectives were twofold: first, to showcase an integrated underwater STEM project carried out by a native CHamoru high school math teacher from Guåhan, and second, to analyze the project's planning and implementation through the lens of the RM framework. To assess the presence of RM dimensions in the teacher's approach, various artifacts such as lesson plans, reflections, images, and an interview transcript were examined. The overarching research question guiding this study was: How are dimensions of RM observed in a STEM project planned by a Guåhan math teacher? Analysis of the case study data revealed the presence of several RM dimensions, including participation/positioning, cultures/histories, windows/mirrors, broadening mathematics, creation, and body/emotions. These findings and implications for both researchers and practitioners in the field are further discussed.

Keywords: rehumanizing mathematics, rehumanizing STEM, aqua-robotics STEM, remote operated vehicle, math education, Guåhan

Introduction

Numerous studies have highlighted the academic success of historically marginalized students in science, technology, engineering, and mathematics (STEM) education in the United States (US) through multiple case studies and counternarratives (e.g., King & Pringle, 2019; Leonard, 2021; Nazar et al., 2019). However, a significant research gap exists in the identification of successful STEM teaching and learning from other understudied populations of US citizens: individuals from Guåhan—the Indigenous term for Guam, an unincorporated US-territory island in the Pacific which includes a significant

percentage (46%) of students from Micronesia, a subregion of Oceania comprised of approximately 2,000 small islands. While it is researched and known that white dominance and supremacy is pervasive in STEM education and problematic for BIPOC (i.e., Black, Indigenous, and People of Color) students (Chen & Buell, 2018; Philip & Azevedo, 2017; Shah, 2019; Zouda, 2018), Eurocentric STEM teaching practices continue to be implemented in the Guåhan's schools despite its diverse racial demographic. Given that about 32.8% of the island's population are CHamoru (the Indigenous term for a native person in Guåhan; the capitalization of "CH" is intentional to honor the Indigenous alphabet system of the native language and will continue to be written as such throughout this article), 29.1% are Filipino, 13.2% are Native Hawaiian or Other Pacific Islander, and only 6.8% are white (US Census Bureau, 2020), it is sensible that such teaching practices may not be suitable for all students in Guåhan. Furthermore, approximately 99% of Guåhan's public school students have roots and origins from various island nations in Micronesia and other regions of Oceania in the Asia-Pacific region (Guam Department of Education, 2022), making it crucial to consider culturally relevant and responsive STEM pedagogies (Brown, 2021; Brown et al., 2019; Gay, 2013; Ladson-Billings, 1995; Misco, 2018). Because Guåhan has had a history of being perpetually occupied by colonial powers such as Spain, Japan, and the US, which has influenced the island's ways of living and education (Aguon, 1979; Kerr, 2018), implementing teaching and learning strategies that are culturally relevant and responsive to students in Guåhan is both critical and complex. Such pedagogies are necessary not only for educational success in STEM but also for the preservation and continuity of culture, traditions, and education (Brown-Jeffy & Cooper, 2011) in Guåhan and, more broadly, Micronesia.

Rehumanizing Mathematics/STEM

Since school mathematics acts as a gatekeeper to students' positive attitudes toward STEM (Berger et al., 2020; Wieselmann et al., 2020) as well as a gatekeeper to pursuits in postsecondary STEM programs and careers (Douglas & Attewell, 2017; Martin et al., 2010), we focus this article on rehumanizing mathematics (RM) pedagogy, a term that reflects an ongoing process in "not just identifying dehumanizing practices but offering rehumanizing ones; privileging the voices of teachers, students, and communities; attending to intersectionality where possible; and positioning the authors as humans" (Gutierrez, 2018, p. 3). RM is a decidedly decolonial act within these colonized contexts (e.g. Guåhan), ensuring the preservation and continuity of culture and traditions and the perpetuation of various kinds of knowledge.

RM guides educators to reflect on their teaching practices' impact, particularly on marginalized students. It emphasizes active engagement with students, seeking feedback, and evidence to genuinely promote a rehumanized approach to mathematics. RM is about making the learning environment more inclusive, empathetic, and culturally responsive (Abdulrahim & Orosco, 2020; Hue & Kennedy, 2014; Sullivan, 2015; Yang et al., 2014). It acknowledges that different students may experience mathematics differently based on their diverse backgrounds, and therefore, educators need to be attuned to the needs of their diverse learners. To achieve this, educators are encouraged to communicate regularly with their students, understanding their perspectives, challenges, and experiences with mathematics to provide a more supportive and empowering learning environment. By actively seeking input and feedback from their students, educators can identify areas where they can further improve and

rehumanize mathematics in the classroom. For instance, this might involve incorporating culturally relevant examples and contexts into the math curriculum (Ladson-Billings, 1995), promoting collaborative learning (Van Leeuwen & Janssen, 2019), or encouraging discussions that allow students to share their diverse perspectives and experiences with the subject (Lugosi & Uribe, 2022). RM challenges educators to be introspective, adaptable, and responsive in their teaching approaches (Author, 2022). It acknowledges the diversity of student experiences and places the responsibility on educators to continually evolve and refine their practices to create an inclusive and supportive learning space for all students.

The RM framework places BIPOC students at the center of teaching and learning, recognizing that mathematics cannot be fully utilized until inequities experienced by those pushed to the margins, such as students from Guåhan and Micronesia, are addressed. The use of the term rehumanizing, as opposed to merely humanizing, is intentional as a means of restoring identities in mathematics that have been erased due to dehumanizing practices brought forth from westernized schooling. Moreover, it is a way to pay respect to the mathematics that has been present not just through ancestral humans, but other living beings (i.e. the natural world) alike. Gutierrez's (2018) framework consists of eight dimensions which act as guiding principles in the process toward RM: (1) participation/positioning, (2) cultures/histories, (3) windows/mirrors, (4) living practice, (5) creation, (6) broadening mathematics/STEM, (7) body/emotions, and (8) ownership (see Table 1 for brief dimension descriptions as well as sample questions to consider when critically interrogating math teaching practices). We argue that such dimensions may also be extended toward rehumanizing STEM.

Table 1: Eight Dimensions of Rehumanizing Mathematics Framework (Gutierrez, 2018)

Dimension	Descriptor	Example question
Participation/positioning	The hierarchies at play in a classroom and shifting authority from the teacher or text to the student.	Are students doing algorithmic problems from a textbook, or are they collaborating with their peers?
Cultures/histories	Takes into consideration students' cultural backgrounds or their funds of knowledge.	To what extent and how are students' cultures incorporated into the lesson?
Windows/mirrors	Students being able to see themselves in mathematics as well as have a glimpse into the lives of others.	Are students afforded the opportunity to learn about peers' or others' cultures through the math curriculum?

Living practice	Recognizing different practices in mathematics.	Are students afforded the opportunities to arrive at solutions from different pathways?
Creation	The autonomy that students are given to invent new algorithms or ways of knowing.	How does the lesson display a learning of mathematics that is evident through students' values?
Broadening mathematics/STEM	Going beyond mathematics that is taught in school curriculum.	Is there evidence in the lesson of students learning new mathematics in nature?
Body/emotions	Allowing students the opportunity to conjure up feelings of joy or use of their body.	What evidence is there in the lesson that tap into students' emotions?
Ownership	Viewing mathematics as doing something for oneself.	Is there evidence in the lesson where students can take the mathematics beyond the school day?

To that end, we centered this single case study on a CHamoru high school math teacher who integrated mathematics into a robotics project in her algebra classes. The purpose of this study was twofold: (1) to highlight and showcase an integrated STEM project planned and implemented by a native CHamoru high school math teacher from Guåhan, and (2) to analyze the project's planning and implementation through the lens of the RM framework. Specifically, this study focuses on the teacher's lesson plans, documented reflections, photo images, and an interview transcript as artifacts of analysis to determine areas where dimensions of RM may or may not have been evident in planning this particular STEM project for her math students. This study was guided by the overarching research question is: How are dimensions of RM observed in a STEM project planned by a Guåhan math teacher?

Methods

We conducted a qualitative single case investigation (Yin, 2009) to analyze a STEM project that was designed and implemented by Ms. Guerrero-Quichocho (a pseudonym), a CHamoru high school math teacher in Guåhan. This STEM robotics project that was implemented in her pre-algebra and algebra 2 classes. With over 25 years of teaching experience, Ms. Guerrero-Quichocho is an experienced mathematics educator who currently teaches secondary math at a local public high school in central Guåhan. She received numerous local teaching awards and was also honored with the Presidential

Award of Excellence in Mathematics and Science Teaching for the US Territories (PAEMST; National Science Foundation [NSF], n.d.) in 2021. As a PAEMST alumni liaison, she continues to network with Guåhan STEM teachers and advocates for STEM education for students in Guåhan and Micronesia. Ms. Guerrero-Quichocho positions herself as an educator who is dedicated to professional development (PD) to enhance her expertise in mathematics and STEM teaching.

Lesson Context: MATE STEM Underwater Remote Operated Vehicle

Ms. Guerrero-Quichocho developed the idea for her STEM robotics project through her participation in PD with the Marine Advanced Technology Education (MATE) center. With its headquarters in California and funding provided by the National Science Foundation since 1997, the MATE center was established to broaden interest and participation in STEM and robotics and prepare students for ocean occupations (“MATE,” n.d.). MATE holds an annual STEM Underwater Remote Operated Vehicle (ROV) competition that encourages a global community of learners to design and build ROVs and ROV models to highlight and help combat environmental global issues such as ocean health, environmental sustainability, and climate change. As her school’s math department chairperson and advocate for STEM, Ms. Guerrero-Quichocho was one of several STEM teachers in local high schools selected to attend a 3-day intensive training program held in the US in May 2016 for a MATE ROV competition to be held in Guåhan. Guåhan’s Department of Education held its first ever MATE ROV competition in April 2017, wherein one of Ms. Guerrero-Quichocho’s students took home the top prize and was given the opportunity to compete at a regional competition in the US state of California later that year. Local MATE ROV competitions continued until 2020 when the program was discontinued indefinitely due to the COVID-19 pandemic.

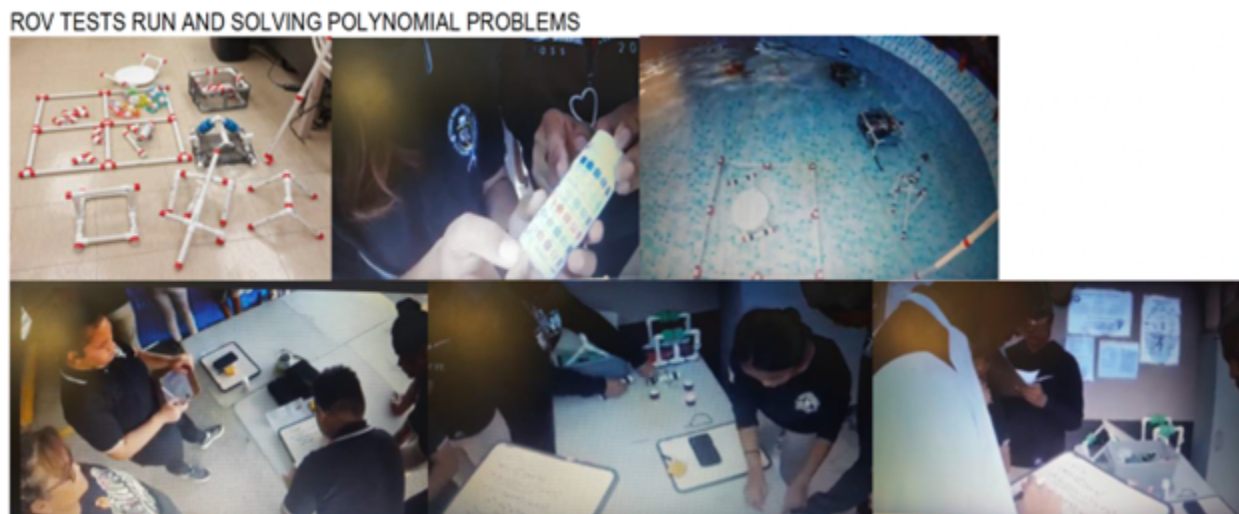
Although the local MATE ROV competition was put on hold, experiences during her training and success in Guåhan’s MATE ROV competition prompted Ms. Guerrero-Quichocho to extend principles, tasks, and activities from the program into her math classrooms since the 2017-2018 school year (see Appendix for Ms. Guerrero-Quichocho’s STEM ROV assignment information sheet). The mission and task objectives of her lesson titled, “The Mariana Trench Mission,” was to design and construct an ROV model that had the capability to obtain objects underwater and carry them to the surface for further analysis. In addition to learning more about the Mariana trench located near the Mariana archipelago which includes the island of Guåhan, the lesson included algebraic tasks in the form of quadratic and polynomial equations that students needed to solve. A transportable swimming pool provided by Ms. Guerrero-Quichocho’s school was used to model the Marianas trench, while tubes made from PVC pipes were used to represent various underwater objects such as waste pollution and marine flora and fauna. Upon successful retrieval of these objects at surface level, students were to solve math equations that reveal letters to a hidden word that students were encouraged to uncover for bonus points. We were intentional in analyzing Ms. Guerrero-Quichocho’s STEM ROV lesson, given that this project offered a unique and authentic STEM task that veered from typical or conventional math tasks such as solving multiple similar equations on a math worksheet. Specifically, this student-centered lesson was not taken from a math textbook and involves a task that is open-ended and collaborative by design. Moreover, the lesson practiced the type of culturally responsive pedagogy that RM calls for, as the students’ location was used as the subject of the project and the purpose of the research was

situated in environmental issues particular to the context of Micronesia. As participants in this challenge, students were actively engaged in the process of studying and preserving their environment.

Data Collection and Analysis

Robust single-case case study analysis draws upon evidence from multiple sources of data related to said case (Yin, 2009). The present study is based on a data set comprising four documents, namely a 3-page lesson plan from the Spring 2018 semester, a 5-page lesson plan from the Spring 2019 semester, a 6-page lesson plan from the Summer 2021 term, and a 1-page supplemental reference sheet providing contextual background information on the project and Ms. Guerrero-Quichocho's rationale for implementing the project. Included in these documents were photos of students' ROV designs with their names redacted as well as images of students engaged in collaboration with their faces not visible in the images (see Figure 1 for sample images). These archival images were also artifacts in the analysis and were provided by Ms. Guerrero-Quichocho to be part of the study. Due to the COVID-19 pandemic and the shift of schools in Guåhan to strictly and online modality, the project was not assigned during the 2020-2021 academic year. Lastly, to gain further insights and contexts for Ms. Guerrero-Quichocho's pedagogical design, a semi-structured interview was conducted in December 2022, and its transcription was another source of data for this study. The interview focused on elucidating Ms. Guerrero-Quichocho's motives for planning and implementing such a lesson in her math class and included questions and prompts such as the genesis of the idea for the STEM lesson, the rationale behind its implementation, and recalling responses of her students to the lesson.

Figure 1: Photos included by Ms. Guerrero-Quichocho in her supplementary document



The data set was examined a priori using a qualitative coding schema (Saldaña, 2013), following the RM framework's eight dimensions as analytical lens (see Theoretical Framework section). Qualitative data analysis software, MAXQDA Analytics Pro, was used to help organize data sources and efficiently draw out codes (data units of analysis) deductively. Each of the authors of this article coded the elements in the interview transcription, lesson plans (e.g., text, passages, figures, and images), and the supplementary document separately, based on the dimensions of the framework. In addition to the content, the structure of the lesson plans and the images provided in the 1-page reference sheet were

also considered for analysis. Following independent coding, the authors engaged in detailed discussions to finalize the coding schema. The interrater reliability score for the initial round of coding was 83%, indicating a high degree of agreement. Further discussions on the coding schema led to some codes being shifted from one dimension to another. Detailed notes were taken to identify the dimensions that were more salient in the data sources and thick descriptions of the data are presented in the Findings section.

Researcher Positionality

In terms of our positionality, we were born and raised in Guåhan and have received our primary and secondary education through the Guåhan public school system. The first author brings to this study the experience of having previously taught secondary math in Guåhan and currently focuses on researching sociopolitical aspects of math education. He and Ms. Guerrero-Quichocho are colleagues through an PAEMST alumni liaison program funded by NSF. The second author specializes in decolonial theory and pedagogies and transpacific rhetoric. We both acknowledge the harmful effects of colonialism and recognize how westernized and Eurocentric teaching practices are dehumanizing, contributing to the ongoing erasure of Guåhan and Micronesia's culture, traditions, and ways of living and knowing. Throughout the research process, we have been mindful of our own beliefs and cognizant of any potential biases that may have impacted the interpretation of data. To mitigate any potential influence on our findings, we have remained reflective and open to alternative perspectives.

Limitations

There are a few limitations we wish to point out in the present study, the first being that it is indeed a single case meaning that findings are not generalizable. However, we contend that the wealth of data sources provided by the participant in this research accounts for a robust case study analysis worth noting, in order to contribute to the dearth of knowledge in this area of math education, specifically in this context of Guåhan. Another limitation is that we were unable to observe Ms. Guerrero-Quichocho implementing and enacting the lesson to her students. We believe observing her enact the lesson and reconciling our field notes would have provided more substantial data in RM to triangulate her lesson plans and document data. Nonetheless, conducting the semi-structured interview was a viable way in knowing more about the lesson retrospectively through Ms. Guerrero-Quichocho's recollections and evaluations of the activity.

Findings

Our coding schema resulted in finding evidence of the following RM dimensions in the planning and implementation of Ms. Guerrero-Quichocho's STEM ROV lesson: participation/positioning, cultures/histories, windows/mirrors, broadening mathematics, creation, and body/emotions. We did not find explicit evidence pertaining to the living practices and ownership dimensions. We summarize these findings through thick descriptions of the data in the paragraphs that follow.

Participation/Positioning

Ideas relating to the participation/positioning dimension were evident in several of the data sources provided for this case study. For example, in Ms. Guerrero-Quichocho's lesson plans, there were mentions of opportunities to work in collaborative groups as opposed to working individually or taking

in math problems from direct lecture. A section box in her lesson plans stated being a “team player” as a student learning outcome where students “Work together to achieve a goal; Focus on tasks and expectations; and Encourage positive attitudes among one another.” Evidence of these outcomes were confirmed and captured in the photos provided by Ms. Guerrero-Quichocho. For instance, in one of the photos, two students are holding what appears to be a PVC pipe in place while a third student uses a cutting tool to split the tube into two parts. Another photo depicts a student gesturing towards a partially assembled ROV and providing an explanation of the vehicle to another group of students. Another piece of evidence was found in her lesson plans through indications of a “team folder” portfolio as a resulting artifact of the project. Ms. Guerrero-Quichocho was also able to confirm her students’ participation and positioning through their reflections and her own observations. In her reflective supplementary document, she stated, “Reading the reflections from these students, I was encouraged to continue implementing STEM strategies and this project. Hearing the dialogue and seeing the cooperative learning firsthand made it evident that learning did occur, and my expectation was surpassed.” Lastly, during her interview, Ms. Guerrero-Quichocho talked about how she wanted to extend the district-wide Underwater ROV competition into her classroom. She felt that these opportunities should not have been only for a select few students in an after-school program. She explained, “I want STEM to be for everybody. I also want this ROV competition that we have district wide to be in my classroom so all my students are exposed to it and they can say, ‘I have experience doing it.’” Such collaboration reflects the values of collectivity and reciprocity in Guåhan and throughout Micronesia, counter to western individualism.

Cultures/Histories

Notions of the cultures/histories dimension were also evident in Ms. Guerrero-Quichocho’s STEM ROV lesson. To address her school’s school-wide learner outcomes, she included some touchpoints as indicators for a section of “Supporters of Diversity,” which were meant to demonstrate the ability to “learn, accept, and appreciate all cultures, beliefs, and practices; respect other’s differences and views; and promote unity within the community.” Furthermore, Ms. Guerrero-Quichocho incorporates the CHamoru language into the lesson through the use of team names as seen in her assignment information sheet in Figure 1 in the Methods section above. And lastly, she discussed in her interview that one of her aims for doing this lesson was to expose students to not just oceanic STEM careers, but to know more about the history of Guåhan, namely in relation to World War II. She talked about her students commenting on specific places in and in relation to Guåhan:

Of course they’re like, ‘Wow, I’m going down to the Marianas Trench and I’m going to observe all things. I’m going over to Apra Harbor, and I’m going to look at all these different war relics there.’ [...] So yes, I take advantage of us being in the Marianas and us being from Guåhan, having all these different sites to experience and bringing that into the classroom for students to see.”

Integration of the island’s Indigenous language, history, and land places value on this knowledge and shows its relevance and utility. Students are able to associate their own language and sociogeographic contexts with mathematics, problem solving, and future STEM careers.

Windows/Mirrors

Extending from the cultures/histories dimension, ideas of the windows/mirrors metaphor were also evident in Ms. Guerrero-Quichocho's lesson. Displaying evidence of a window to another's culture, she explained in her supplementary document that the inspiration for her desire to plan and implement this lesson came from the movie, *Spare Parts*—a true-to-life story based in the US about a Mexican American teacher who supported his Mexican American students to enter and eventually win a national underwater ROV competition. She wrote:

The movie, 'Spare Parts,' starring George Lopez and directed by Sean McNamara, has always been an inspiration to me as a teacher. It hits almost too close to home where Pacific Islanders can relate to a movie that portrays our daily lives and all that we encounter. After attending the STEM Underwater training in school year 2016-2017, I challenged myself to change my teaching curriculum to incorporate this underwater remote operated vehicle project.

Likewise, in terms of mirroring one's own culture within the lesson, Ms. Guerrero-Quichocho reflected upon her own experiences in hopes to inspire her students who come from similar backgrounds. She explained in her interview that she told her students about her experiences with the scuba-diving certification process and being able to explore the reefs near Guåhan as well as seeing large war relics hidden in the Pacific Ocean. She elaborated:

I want to expose them to what we have in our backyard, that I can bring into our classroom and they can actually see. I told them that I was a certified diver, a scuba diver, and I was able to see all the different sites from the war [World War II].

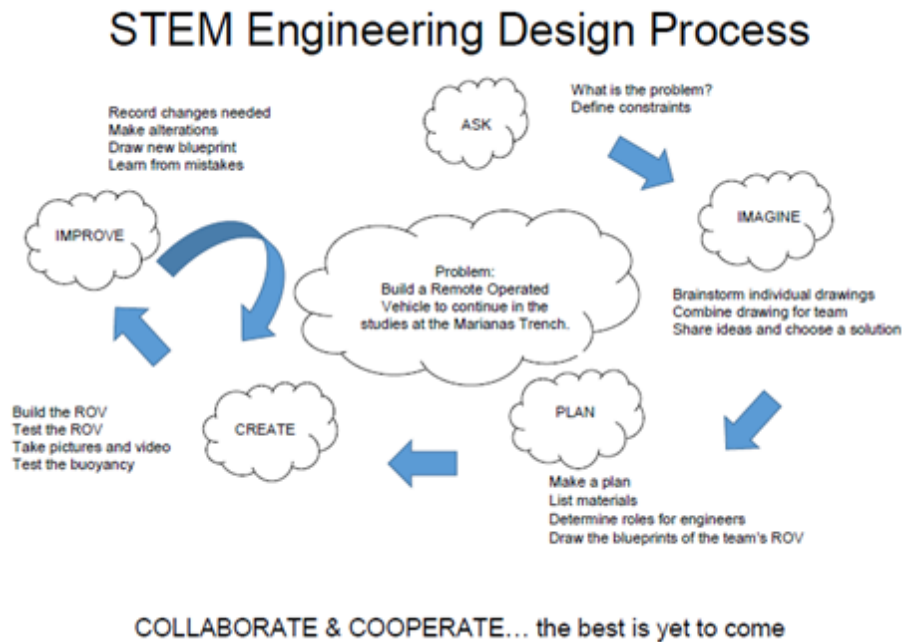
On a broader scope, the environmental concerns associated with the Mariana trench and the reefs of Micronesia reflect larger social issues of environmental justice and conservation.

Broadening Mathematics/STEM

Multiple aspects of Ms. Guerrero-Quichocho's STEM ROV lesson highlight the dimension of broadening mathematics. First of all, her math lesson was problem-based, evidenced by her "Big Ideas" question posed at the beginning of her lesson plans: "How can we build an Underwater ROV to help save our reefs, use it to pick up props from the sea floor, and study sea creatures?" Second, Ms. Guerrero-Quichocho approached this lesson from an integrated STEM viewpoint by including aspects of science, technology, and engineering in the learning experience. This was evidenced by a section in her lesson plan with the heading, "Engaging Students in Learning the Content," that stated, "A portion of the Engineering Design Process is introduced for students to have a product by the end of the period. Demonstrations of technology used will be stressed for safety and proper use." Third, also included in her lesson plan was a STEM Engineering Design Process illustration that she shared with her students (see Figure 2). She also extended this lesson to include other disciplines such as history (e.g. learning about Guåhan's contextual situation during World War II), geography (e.g. geographical location of Guåhan and Micronesia in a global context), and literacy (e.g. inclusion of tasks and multilingual prompts on writing daily narratives and reflections about student groups' progress). More evidence of broadening mathematics was captured through the multiple images Ms.

Guerrero-Quichocho provided as samples from previous year students (refer back to Figure 1 for sample images). Students are seen tinkering with objects, creating blueprints, and engaging in dialogue with their peers for problem-solving, all of which broadens the typical discourse of mathematics presented in US school curriculum.

Figure 2: An illustration of the STEM Engineering Design Process included in Ms. Guerrero-Quichocho's lesson plans

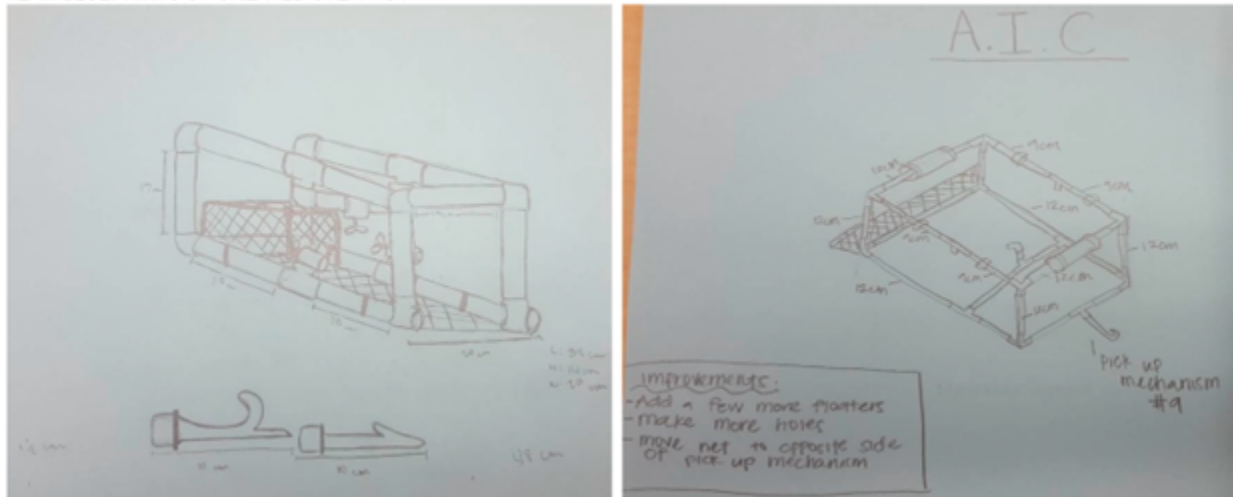


Creation

Although there were no indications in any of the data sources of students creating their own mathematical algorithms, the creation dimension was evidenced through the physical ROV objects produced (refer back to Figure 1 for images of partial and completed ROVs) as an outcome of Ms. Guerrero-Quichocho's lesson. In addition to the actual vehicles themselves, a final task for the lesson was to document their journey on this project using various digital media and technologies via mobile phone photos and videos. In a section called "Closing the Lesson" in her lesson plans, Ms. Guerrero-Quichocho wrote, "Teams will make a video. The video will consist of their venture through the semester with the STEM ROV project and classroom collaborations." There was also evidence of creation even before the actual products were made through the planning portion that Ms. Guerrero-Quichocho tasked her students as an introductory activity. Figure 3 displays sample images of students' initial blueprints of their ROV ideas.

Figure 3: Images of students' ROV blueprints provided by Ms. Guerrero-Quichocho

TEAM BLUEPRINTS OF CREATED STEM ROV



Body/Emotions

Finally, evidence of the body/emotions dimension were present in Ms. Guerrero-Quichocho's STEM ROV lesson. In addition to working collaboratively and cooperatively in groups, she ensured that her students were engaging in fruitful conversations about the lesson. She indicated in the "Assessment" section of her lesson plan:

The students will know they are learning when they start conversing using the vocabulary and staying on task. I know when the students are learning when I solicit responses and I receive remarkable feedback; and most importantly, I know when the students are learning when the conversations turn into collaboration and a plan comes together. This is when the students have the 'I did something great' look and the team works together.

Ms. Guerrero-Quichocho was also intentional in helping her math students develop interpersonal skills to "develop trust and build on their soft skills by the interventions and team building." She dictated that students will be challenged and motivated through their performance in the project as a means to pique interests in careers that they have not previously explored. She shared in her lesson plan:

The main lesson students to [sic] walk away with is that STEM is for everyone. Expectations and outcomes are infused in my students to challenge themselves to perform at their best. I encourage the motivation and awareness of STEM so that my students would have the opportunity to try other avenues of careers and see that there is a venue for the Mariana Island residents to explore.

In Ms. Guerrero-Quichocho's reflections in the supplementary document, she also shared the joy and excitement she observed from her students as well as feeling encouraged herself. She wrote:

The students were so excited to compete against each other and talk about what they built. They came together as a team; they collaborated as if they were engineer interns and they

enjoyed the rigor of the real-world lessons. Reading the reflections from these students, I was encouraged to continue implementing STEM strategies and this project.

Living Practice and Ownership

We agreed that the living practices and ownership dimensions were more difficult to capture in the data sources specifically provided for this study. As stated in the Limitations section above, however, perhaps having the opportunity to observe Ms. Guerrero-Quichocho teaching and implementing the lesson and interacting with her students may have afforded the opportunity to see evidence of these specific dimensions. Nonetheless, we provide a few talking points of these dimensions later in the Discussion section.

Discussion and Conclusion

The purpose of this qualitative single-case case study was to: (1) highlight and showcase an integrated STEM lesson project planned and implemented by a native CHamoru high school math teacher from Guåhan, and (2) analyze the lesson's planning and implementation through the lens of the RM framework. We sought to answer the research question: How are dimensions of RM observed in a STEM project planned by a Guåhan math teacher? We uncovered several points of evidence pointing to most dimensions of RM in critically examining various artifacts as data sources provided for this case study using a RM frame. It is also important to note that Ms. Guerrero-Quichocho was not introduced to the concept of RM and that she had planned these lessons even before the framework was ever developed. In other words, this lesson that Ms. Guerrero-Quichocho planned and implemented was drawn from her own past experiences, inspirations, and self-motivations. In light of these notions and findings, we discuss implications from this study below.

First of all, representation is critical in promoting and advancing opportunities for student populations underrepresented in STEM such as CHamorus and other Pacific Islanders (Kerr et al., 2018; Martin & Fisher-Ari, 2020). Ms. Guerrero-Quichocho was inspired to plan and implement this project in her math classes to further inspire her Pacific Islander students to pursue an ocean-related STEM career. By sharing her experiences in scuba diving and exposing her students to details of the STEM ROV competition and activities, Ms. Guerrero-Quichocho brought joy and excitement to her math class. Her students then were not only more inclined to participate in the activities but also had their interest piqued about a career they may not have known existed. Drawing out this sense of joy and other emotions from students is a form of rehumanizing mathematics pedagogy (Gutiérrez, 2018) which enabled her students to be active and engaged participants of mathematics (Ing et al., 2015) and global citizens concerned with cultural and environmental preservation. To increase student and teacher representation (and participation) of these STEM-integrated activities, more PD opportunities such as the MATE experience that Ms. Guerrero-Quichocho should be afforded to local teachers in Guåhan. Providing specific and focused PD experiences in this STEM area would help teachers to enhance their teaching self-efficacy in planning and for implementing these types of lessons in their classrooms (Dong et al., 2019). We argue that these PD experiences should also be led by local Guåhan teacher leaders like Ms. Guerrero-Quichocho due to their professional experience and cultural and community funds of knowledge.

Second, Ms. Guerrero-Quichocho's project was rehumanizing in that she had posed a problem-based project situated in a place-based context familiar to her students, meaning that the lesson provided a sense of authenticity for her students living in Guåhan (Showalter, 2013). Because Guåhan is very diverse with many students whose origins come from different countries and islands in the Asia Pacific region, many students were also able to learn about Guåhan's geographical and sociopolitical position from a global perspective. It was clear in the sample photos that students were engaged and working with materials not typically seen in a conventional math classroom. Broadening mathematics and what it means to actually do mathematics by connecting problem-based lessons with students' funds of knowledge can lead to increased student participation and engagement (Amalia et al., 2017; Li & Tsai, 2018). We contend that Ms. Guerrero-Quichocho may not have seen the same level of joy and engagement from her class had she used math problems unrelatable and inauthentic to her students in Guåhan. We recommend that, in relation to the PD experience, that there be a focus on designing culturally relevant tasks (Ladson-Billings, 1995) that are place-based and authentic to the context of Guåhan by responding to and with the culture's traditions and concerns.

Lastly, we were unable to discover any evidence relating to the living practice and ownership dimensions of RM. Nonetheless, we emphasize that the absence of these dimensions does not necessarily mean that Ms. Guerrero-Quichocho's STEM project is dehumanizing. Rather, it is a portrayal of certain dimensions taking precedence over another and a display of the interconnectedness among some of them. We do not mean to say that all lesson plans must reveal evidence of all the RM dimensions, but rather we may see math lesson plans as a rehumanizing work in progress. The mere fact that Ms. Guerrero built upon her first three years' lesson plans and eventually established a summer camp for this project speaks to this ongoing process of RM and its expansive applications (Gutierrez, 2018).

In sum, this study sheds light on the utility of the RM framework as a tool for investigating lessons that cultivate rehumanizing practices in mathematics education. Additionally, the research provides valuable insights into the ways in which rehumanizing practices can be effectively integrated into STEM education, as evidenced by the present study's focus on a place-based themed STEM project. We argue that the application of a rehumanizing lens to the critical analysis of math lessons is a forward moving step in advancing the field of mathematics education, as it enables educators to confront and challenge issues of power and identity that serve to perpetuate systemic inequities that impede the authentic and meaningful learning experiences of students. In continuing in the context of this study and to fill in more gaps in this inquiry, further research is needed on effective PD experiences in RM for Pacific Islanders as well as a deeper investigation into Pacific Islander students' perceptions of RM.

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Declaration of Interest

The authors declare no financial or competing interests for this study.

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Autoethnography: A Western Instructor's Journey in Island Nation Distance Education

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Abstract

Embarking on an autoethnographic journey, this study illuminates the complexities and nuances of my experiences as an educator navigating the waters of a distance learning-based teacher preparation program within an Island Nation context. Operating from the vantage point of a Western teaching paradigm, I intertwine my narrative with the intricacies of the Theory of Cultural Identity, providing a multi-layered exploration into the world of cross-cultural academia. The Island Nation, with its distinct cultural tapestry, poses unique challenges and considerations for educators like me, who are ingrained with Western pedagogical ideals. The narrative foregrounds not only the pronounced disparities I discerned in the academic arena but also accentuates the myriad challenges that arose while striving to foster an environment conducive to the diverse adult learners hailing from the Island Nation communities. In this rich mosaic of personal experience, professional trials, and theoretical grounding, the study aims to serve as a reflective beacon for educators who venture into culturally distinct terrains, emphasizing the paramount importance of adaptability, cultural sensitivity, and relentless introspection. By bridging personal narrative with broader cultural and academic discourses, the study underscores the potential for transformative teaching and learning experiences, even when worlds apart.

Keywords: autoethnography, cultural intelligence; pedagogical transformation, collective learning, cross-cultural teaching paradigms

Introduction

Using my personal narrative approach, and autoethnography research, I examine my experiences with teaching in a teacher preparation program in a distance learning environment. I framed my analysis through the Theory of Cultural Identity (Chen & Formina, 2022) from my Westernized teaching framework as my role as an instructor in a higher learning institution. The significance of this narrative comes from its focus as I shed focus on gaps in the academic, challenges, and consideration to support adult, Island Nation, learning communities.

Crossing borders, the realm of distance learning has grown exponentially over the past few decades offering growth were accessing in-person educational opportunities can be challenging. As Western educational pedagogies are increasingly being integrated into the Island Nation educational system, understanding the nuances and implications of this integration is essential. The learning platform offerings have opened doors to destinations such as Island Nations which raise questions about integration, cultural sensitivity, and efficacy.

The continuous evolution and adaptation trajectory of Western academic classroom methodologies places a strong emphasis on incorporating cultural nuances. By prioritizing the incorporation of these cultural perspectives, an instructor aims to nurture heightened mindfulness and intention in reshaping the classroom environment. This deliberate consciousness for instructors as emerging educators in deepening their engagement within the Island Nation context. Through reflective practice, a sense of shared optimism or "collective hope" emerges. This collective vision seeks to enhance teaching

practices' understanding and effectiveness. Educators become adept at supporting children within Island Nation communities, ensuring educational strategies align with local contexts and values (Kirshner & Kamberelis, 2020; Stojanovic, 2022)

Theory of cultural identity

Understanding cultural dynamics and disparities in academia is crucial for educators, especially in a distance learning environment. Zheng Xiaoguin's, Theory of Cultural Identity (Chen & Formina, 2022) offers a comprehensive lens for instructors from Westernized academic perspectives. This theory emphasizes the importance of recognizing and valuing the diverse cultural backgrounds of learners.

In the realm of distance learning, where face-to-face interactions are limited, understanding the cultural nuances becomes even more vital. The Theory of Cultural Identity sheds light on the cultural complexities that inform teaching practices. It emphasizes that educators should not only be aware of their own cultural biases but also be sensitive to the cultural backgrounds of their students (Stojanovic, 2022).

Incorporating the tenets of this theory provides educators with a deeper understanding of the cultural contexts influencing Island Nation learners. This enhanced perspective offers instructors valuable insights into the unique learning behaviors, preferences, and motivations of these students. Armed with such knowledge, educators might tailor their teaching methods to align more closely with the diverse needs of Island Nation learners, fostering a more inclusive and conducive learning environment (Bond 2019; Delgado et al., 2020).

The blending of teaching practices does not merely adapt to theoretical principles. Guided by an educator's internal compass, refined by introspective cognitive insights, there emerges a pronounced move towards a collective approach. This harmonizing of theory with practical application extends beyond conventional pedagogical boundaries (Bond, 2019; Seppala & Smith, 2020). A foundational aspect of this educational endeavor involves the integration of cultural intelligence, feedback from mentors, and rigorous academic standards (Reynolds et al., 2023). As insights from diverse mentors intertwine with collective learning methodologies, a comprehensive framework for an enriched teaching and learning environment takes shape. This blending not only redefines traditional parameters of effective teaching but also highlights the dynamic nature of growth within the educational field (Chen & Adams, 2022; Reynolds et al., 2023; Meihami & Rashudi, 2020; Yun & Park, 2020).

In the context of an autoethnography examining the experiences of a Westernized instructor navigating distance education in an Island Nation, the Theory of Cultural Identity as posited by the Chinese philosopher, Zheng Xiaoyun, and examined by, offers profound insights. Zheng's groundbreaking work, while recognized within Chinese academia, introduces a nuanced understanding of the interplay between cultural and national identity and the dynamics of identity development (Chen & Fomina, 2022). By juxtaposing Zheng's perspectives with Western and Russian views on cultural identity, a layered understanding emerges. Western scholars often lean towards the psychological dimensions of identity, while Russian counterparts stress its cultural nuances. In contrast, Zheng uniquely amalgamates structural and constructivist viewpoints, emphasizing the preservation of cultural identity in a swiftly changing global landscape (Chen & Formina, 2022; Jones & Lee, 2020; Mihami & Rashidi, 2020). For the Western instructor in an Island Nation, this theory underscores the complexities they

might encounter in reconciling their inherent Westernized perspectives with the rich tapestry of the Island Nation's cultural identity, especially within the educational realm.

Background

Situated in the western Pacific, this Island Nation has a rich cultural tapestry distinct from many others. The burgeoning world of distance learning necessitates a close look at how Western educational principles resonate with students, and how educators, often steeped in Western ideologies, maneuver through this novel terrain. The interplay between a Westernized instructor and Island Nation veteran teachers calls for in-depth reflective engagement.

Amidst the whirlwind of globalization, the cross-pollination of educational techniques flourishes across diverse cultural topography. An Island Nation, though receptive to global trends, has its unique cultural, historical, and educational narratives. This study endeavors to depict the intricate journey of a Westernized instructor, threading through the distinct educational maze of the educational landscape. The experiences of a Westernized instructor and his/her interaction with veteran classroom teaching in an Island Nation call for exploration. The current wave of globalization has led to the internationalization of education, resulting in a blend of teaching methodologies and practices across varied cultural landscapes. This study seeks to paint an intimate portrait of the lived experiences of a Westernized instructor navigating the nuances of the Island Nation educational setting.

Objectives

- Exploration of lived experiences, challenges, and adaptations of a Westernized instructor teaching a course in an Island Nation distance learning platform
- To provide a deep, reflective account of a Westernized instructor's experience in the Island Nation's distance learning environment.
- To offer insights on adaptability, challenges, and opportunities for Western education in non-Western settings.

Research Questions

- How does a Westernized instructor adapt, modify, and navigate teaching within an Island Nation context through a hybrid learning?
- How do veteran classroom teachers in Island Nation perceive, interact with, and interact with Westernized teaching methodologies into their practices?
- How does a Westernized instructor perceive and adapt to the cultural differences in an Island Nation distance learning platform?
- What challenges arise when implementing Western teaching methodologies in an Island Nation context?

Method

Study Design

Autoethnography is a qualitative research method that seeks to describe and systematically analyze personal experience. This approach allows the researcher to explore, interpret, and understand the culture from an insider's perspective, comparing it with their own cultural background and teaching experience. The primary focus is on the researcher's experience, reflections, and personal narrative in relation to a specific cultural context (Stojanovic, 2022; Walford, 2021).

Data Collection

- Personal Diary: Daily recordings of emotions, challenges, and insights.
- Audio and Video Recordings: Capturing classes, meetings, and reflective moments.
- Field Notes: Immediate reactions and observations post-teaching sessions.
- Informal Conversations: Insights from colleagues to understand cultural dynamics.
- Document Analysis: Review of teaching materials, feedback, and administrative communications to understand the broader educational context.

Data Analysis

- Thematic Analysis: Identification of patterns and themes from the collected data.
- Narrative Analysis: Constructing a coherent narrative from experiences.
- Critical Incident Analysis: Highlighting key transformative moments in the teaching journey.
- Reflexivity: Continuous self-evaluation to challenge and reassess Western-based assumptions and beliefs.

Through this methodology, the study aims to provide a comprehensive narrative that not only stands as a testament to the instructor's experiences but also serves as a guide for educators navigating unfamiliar cultural terrains. The emphasis on the researcher's subjective experience ensures a deep understanding of the interplay between individual experiences and the broader socio-cultural environment (Stojanovic, 2022; Walford, 2021).

Expected Outcomes

- A detailed narrative highlighting the experiences and reflections of a Westernized instructor in an Island Nation distance learning context.
- Recommendations for Western educational institutions seeking collaborations with non-Western countries, emphasizing the importance of cultural sensitivity and adaptability.
- Insights into the preferences and needs of Island Nation veteran classroom teachers, providing a deeper understanding of their interactions with the Western educational paradigm.

Reflexivity was my constant companion, prompting me to re-evaluate my Western-based assumptions and beliefs. In synthesizing my gathered experiences, I employed rigorous data analysis techniques. This involved thematic analysis to discern patterns, narrative analysis to string together experiences, and critical incident analysis to spotlight transformative moments. Through this meld of personal and scholarly lenses, my narrative stands as a testament to my experiences and as guidance for educators navigating unfamiliar cultural landscapes. The method emphasizes the research's subjective experience and the interplay between the self and the social-cultural environment. Through an autoethnographic lens, the instructor will delve into self-reflection, drawing on subjective experiences, emotions, and narratives (Goodall et al., 2020; Walford, 2022).

A comprehensive narrative detailing the experiences and reflections of a Westernized instructor in an Island Nation distance learning setting. Recommendations for Western educational institutions aiming to collaborate with Non-Western countries, highlighting the importance of cultural sensitivity. Insights into the needs and preferences of Island Nation veteran's classroom teachers when interacting with Western educational paradigm.

Pedagogical Crossroads

In the vast expanse of educational landscapes, the narrative of a Westernized instructor navigating an

Island Nation's unique pedagogical terrain stands out as a captivating tale of discovery, challenges, and growth. These experiences, rich in introspection and revelation, are organized into four distinct themes that collectively chronicle the journey. From the intricate dance of adapting between diverse cultural expectations to overcoming technological challenges, from carving out a harmonious learning space that blends disparate educational philosophies to evolving teaching methodologies based on collective emphasis and feedback, each theme offers a window into the multi-dimensional world of distance learning in a culturally diverse setting. Dive into these narratives to unravel the complexities, triumphs, and reflections of an educator's expedition in merging Western pedagogies with the ethos of an Island Nation.

The Dance of Cultural Interplay

The instructor grapples with 'cultural switching', balancing Western pedagogical methods with Island Nation cultural norms. This delicate balance is emblematic of the need for cultural agility in a globalized educational sphere (Bond, 2019). The theme captures the instructor's continual oscillation between the deeply ingrained Western pedagogical approaches and the cultural norms, values, and expectations of the Island Nation students. This dance, at times harmonious and at other times discordant, sheds light on the dynamic tensions, adaptations, and compromises made by the instructor. It underscores the importance of cultural agility in the ever-evolving globalized educational landscape (Bond, 2019; Reynolds et al., 2023).

Cultural code-shifting involves the adaptations and transitions individuals undergo when exposed to diverse cultural influences, especially evident in learners within a Westernized educational environment. As learners from diverse backgrounds interact with Western education, they face challenges ranging from language barriers to reconciling differing value systems. This process can lead to acculturation, where students may either assimilate or develop bicultural identities (Rincon & Hollis, 2020). Learning styles, communication norms, and social interactions often undergo transformation. Exposure to varied perspectives can challenge or reshape beliefs. Over time, many learners develop a hybrid identity, blending elements of their native culture with Western influences (Buelow, 2029; Delgado et al., 2020; van der Zanden et al., 2019).

This journey presents its own set of challenges, including isolation and identity crises as potential aspects of the experience (Jones & Lee, 2020; Kirshner & Kamberelis, 2020). The role of educational institutions becomes pivotal in recognizing these shifts and providing essential support to foster an inclusive environment that celebrates diversity.

“In my role as an instructor, the journey of introspection has been profound and transformative. Engaging deeply with my inner thoughts, coupled with insightful discussions with fellow educators, Island Nation leaders, and institutional visionaries, I have been compelled to confront pedagogical beliefs.”

Concurrently, cultural code-switching involves the deliberate adjustments individuals make to navigate between diverse cultural settings. This underscores adaptability, understanding, and, at times, challenging identity negotiations (Rincon & Hollis, 2020; Zhang & Hang, 2021).

“The echoing voices have underscored the importance of a paradigm shift - from a primarily individualistic approach to embracing a more collectivist teaching method. The transition has not been seamless, given the pressures and the weight of reimagining an entire approach. Yet,

the process has been invaluable, pushing me to evolve and craft a more inclusive and holistic educational experience for my students.”

Bridging the Digital Divide

Another salient theme relates to the unique challenges presented by the distance learning environment, chief among them being issues with internet connectivity. This theme paints a picture of both resilience and improvisation. Moments of frustration, when lessons are interrupted by lagging connections, juxtapose with instances of innovation, where both the instructor and students co-create solutions to continue the learning process. It is a narrative of determination, where the thirst for education transcends technological limitations.

"When students move from their teaching environments to the Zoom classroom, connectivity issues frequently disrupt the flow, often causing some to be involuntarily ejected from sessions. They typically alert me of such challenges through 'WhatsApp' messages. After multiple, shared moments of frustration, we have established a backup plan: affected students continue with learning activities and liaise with peers to catch up on any missed content."

Addressing these technological barriers is just one facet of the intricate landscape of distance learning. Beyond immediate solutions, what emerges as paramount is the support system built around students, ensuring their learning journey remains uninterrupted and enriched.

"The Course Mentor's role is pivotal here, guiding students on their subsequent steps to ensure smooth group collaboration. This role serves as an intervention facilitator to monitor student academic attendance, class participation, and student contribution to signature projects. This serves as quality assurance in a cohort model. Recently, a typhoon on my island gave me a firsthand experience of these connectivity challenges, deepening my admiration for my students' dedication to their education despite these recurring technological challenges."

Crafting a Convergent Learning Space

Merging Western and Island Nation pedagogies requires the creation of a 'third space'. This hybrid space blends Western attributes like critical thinking and individualism with the Island Nation's emphasis on group consensus and respect for authority (Jones & Lee, 2020). Navigating the contrasting terrains of Western and Island Nation educational paradigms, we unearth the instructor's reflective journey to create a 'third space', an emblematic meeting ground of mutual respect and synergistic learning (Kirsher & Kamberelis, 2020; Tualaulelei & Taylor-Leech, 2021)

In Island Nations, the concept of hybrid identity emerges from the interweaving of varied cultural, ethnic, and national origins, a phenomenon shaped by the unique geographical isolation, historical trajectory, and external influences these islands encounter. This blending manifests distinctively in these contexts. A salient aspect of this identity formation is acculturation, where individuals may begin aligning with prevailing Western norms while preserving facets of their indigenous cultural roots (Bond, 2019). This duality can evolve into bicultural identities that harmonize elements from both worlds. This dynamic is evident in educational settings. Predominantly, Western pedagogical approaches highlight attributes like critical thinking, problem-solving, individualism, and participatory engagement (Delgado et al., 2020; Pnevmatikos et al., 2019; Zhang & Han, 2021). Such focus can pose challenges for students

hailing from backgrounds that value memorization, deference to authority, and group consensus (Jones & Lee, 2020). Students often recalibrate, not only adapting to the Western paradigm but also enriching it with their unique cultural insights (Meihami & Rashudi, 2020).

"From my experiences as an educator, the journey of introspection has been both enlightening and transformative. Engaging in deep reflection and informed dialogues with fellow educators, Island Nation leaders, and leadership luminaries has further refined my innovative strategies. The echoing voices of various stakeholders have underscored the importance of a paradigm shift - from a traditionally individualistic approach to one that embraces a more collectivist teaching methodology."

Within this conceptual transformation, a nuanced equilibrium materialized. The fusion of both worlds demanded not only an intellectual reorientation but a profound emotional recalibration. It was essential to maintain the academic rigor intrinsic to the Western pedagogical model while absorbing and respecting the depth of collective wisdom intrinsic to the Island Nation's ethos.

"This transition, though challenging given the weight of reimagining an entire approach, has been invaluable. By integrating extended learning activities and fostering collaborative discussions directly with my students, we co-create a shared knowledge base. Recognizing that many of these students are veteran teachers, their invaluable experiences, and insights merge with this new pedagogical direction. Emphasizing cultural context and the collective, our learning environment thrives, setting a path filled with innovative thinking, shared ability, and an inclusive, holistic educational experience."

Striking a balance between diverse educational foundations is paramount in bridging Western and Island Nation pedagogies (Delgado et al., 2020; Rincon & Hollis, 2020). As the landscape of these contrasting paradigms is traversed, an educator's journey is illuminated, aiming to merge the distinct features of Western individualism with the collective ethos prevalent in many other cultures (Belgrade et al., 2021; Zhang & Han, 2021). The true challenge lies not only in understanding these diverse approaches but also in seamlessly integrating them into a cohesive educational structure. The subsequent narrative from the instructor brings this journey to the forefront.

"Consistent feedback has emphasized the shift from traditional methods like independent projects and solo assignments to more group-centric teaching approaches, such as collaborative projects, team-based problem-solving, and peer assessments. While this transition has not been without challenges, given the enormity of overhauling long-established strategies, it has been a deeply enriching experience. This evolution has guided my growth, inspiring me to devise a comprehensive and inclusive learning environment that blends individual and collective strengths."

Evolving Pedagogy through Collective Emphasis and Constructive Feedback

This theme illuminates the transformative journey of embedding diversity, equity, and inclusion into teaching practices, made possible by incorporating collective methodologies and diverse mentor insights. Weaving together collective learning methodologies with insightful feedback from global mentors, this theme underscores the transformative journey of embracing cultural intelligence and elevating the tenets of diversity, equity, and inclusion from theoretical constructs to lived pedagogical experiences (Chen & Adams, 2022; Pnevmatikos et al., 2019). Combining group-centered learning

techniques with feedback from diverse mentors, this theme highlights the evolution from understanding cultural intelligence in theory to embedding diversity, equity, and inclusion in everyday teaching practices (Reynolds et al., 2023; Meihami & Rashudi, 2020).

"In my role as an instructor, I've realized that effective teaching extends beyond just delivering content; it delves into the emotional and personal realms. At the core of this research is my dual position: as an instructor advocating a student-centered approach and as a continuous learner receptive to the rich tapestry of experiences and emotions within the classroom. This dual perspective highlights the importance of crafting a 'third space,' a nexus of cultural understanding where authentic learning emerges. In this space, the distinctions between 'instructor' and 'student' become fluid, fostering an evolving, interactive learning environment."

This 'third space' fosters a mutual engagement between the instructor and the students, allowing both to refine their understanding in tandem (Delgado et al., 2020). The overarching theme underscores the influential nature of blending collective learning methodologies with diverse mentor feedback (Bond, 2019). "Before each class session, I consulted with the Course Mentor to gauge students' engagement levels. Their feedback emphasized the transition from a predominantly individualistic methodology to a more collaborative teaching approach."

The dominant theme underscores the influential nature of blending collective learning methodologies with diverse mentor feedback. The pivotal role of the Course Mentor is evident in this synthesis. These mentors, offering a fresh perspective on teaching, impart essential leadership wisdom and recommendations for the future. An educator's journey, replete with challenges and achievements, truly embodies this evolutionary process (Bond, 2019; Jones & Lee, 2020; Zhang & Han, 2023).

"Prioritizing time for student engagement and encouraging introspection allows students to align fresh knowledge with their lived realities, continually reshaping their perspectives. By teaching with humility and empathy, we together build a milieu of mutual respect. The classroom evolves into a space where varied stories converge, and shared journeys are celebrated. While I set the course objectives and uphold academic standards, it's our combined effort and shared insights that truly amplify our educational experience, guiding us towards unified comprehension and expertise."

The blending of teaching practices does not merely adapt to theoretical principles. Guided by an educator's internal compass and refined by introspective cognitive insights, there emerges a pronounced move towards a collective approach. This transition from theory to practical application extends beyond conventional pedagogical boundaries (Bond, 2019; Seppala & Smith, 2020). A foundational aspect of this educational endeavor involves the integration of cultural intelligence, feedback from mentors, and rigorous academic standards (Reynolds et al., 2023). As insights from diverse mentors intertwine with collective learning methodologies, a comprehensive framework for an enriched teaching and learning environment takes shape. This blending not only redefines traditional parameters of effective teaching but also highlights the dynamic nature of growth within the educational field (Chen & Adams, 2022; Reynolds et al., 2023; Meihami & Rashudi, 2020; Yun & Park, 2020).

Discussion

The exploration into cross-cultural pedagogical interactions illuminated significant themes, most

saliently the theme of evolving pedagogy through collective emphasis and constructive feedback. In response to the first research question, the Westernized instructor's adaptation in an Island Nation context can be viewed as a transformative journey. This journey manifested through embedding tenets of diversity, equity, and cultural intelligence into practice, reflecting a progression from theoretical understanding to lived pedagogical experiences.

Upon examination of veteran classroom teachers' perspectives in the Island Nation, it became clear that there is a reflective practice of balance. There's consideration of blending Western strategies with indigenous methodologies, emphasizing the transformative essence of embracing a fusion of traditional and modern teaching techniques (Bond, 2019; Kirshner & Kamberelis, 2020).

Navigating the Island Nation's distance learning platform posed unique cultural nuances for the Westernized instructor. Insights suggest the creation of a 'third space', a nexus of cultural understanding. This space became a focal point, emphasizing cultural intelligence and mutual respect, fostering a dialogue with stakeholders and maintaining continuous feedback (Rincon & Hollis, 2020; Yun & Park, 2020).

Addressing the challenges of integrating Western methodologies, the role of Course Mentors emerged as crucial. Their insights, grounded in continuous feedback, played a pivotal role in facilitating the instructor's transition, reinforcing the importance of mentorship in bridging cultural divides (Reynolds et al., 2023). While challenges were diverse, they emphasized the importance of adaptability, fluidity, and responsiveness to feedback, aligning with the theme of evolving pedagogy and the essence of collective methodologies (Belgrade et al., 2021; Chen & Adams, 2023; Seppula & Smith, 2020; Yun & Park, 2020).

The synthesis of these findings beckons further exploration in future research. Specifically, one might delve into:

- The nature of tools and strategies that instructors can utilize to seamlessly navigate the 'third space', merging Western and indigenous teaching practices.
- Understanding synergies between Westernized teaching methodologies and Island Nation pedagogical traditions, potentially crafting a comprehensive teaching framework.
- Evaluative measures that leadership can establish to assess the success of integrating Western teaching methodologies while upholding and celebrating indigenous practices.

Conclusion

In an era where education continuously converges on a global scale, understanding the distinct dynamics of cross-cultural teaching and learning becomes increasingly critical. This autoethnographic exploration offered insights into the Western teaching paradigm within the unique context of an Island Nation's distance learning platform. A vibrant array of experiences, obstacles, and revelations arose from this research, delivering insights invaluable for digital educators around the world.

It is essential to recognize that the Island Nation's context is not a one-size-fits-all model, but rather a specific case with its distinct nuances. While the findings here provided depth and understanding, they might not directly transplant into every cultural environment. This distinction underscores the overarching importance of educators refraining from adopting a standardized approach to diverse

cultures. Instead, they should remain open and adaptable, tailoring their methodologies to be culturally resonant and sensitive (Goodall, 2020; Rincon & Hollis, 2020; Westjohn et al., 2022).

My journey underlines the profound influence of introspection and emotional connectivity in education. The Island Nation offers a unique perspective, every community and culture contributes its depth to the educational narrative. The essence of this research is not just to conclude findings but to inspire fellow educators. It advocates for an approach that prioritizes a symbiotic blend of cultural intelligence, empathy, and academic rigor. Moving forward, the aspiration is that this work not only kindles a deeper exploration and reflection among educators but also champions a holistic teaching approach where diversity, equity, and inclusion become as integral as the academic rigor itself.

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Pioneering Indigenous Formal Educators of 19th Century Mariana Islands

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Pioneering Indigenous Formal Educators of 19th Century Mariana Islands

If we were to handpick the civilians who singlehandedly made more substantial contributions to the people of the Mariana islands of their generation, the names of the Chamorro pioneers of modern education in Oceania should probably be at the top of the list.⁴ The Torres y Diaz brothers, Felipe de la Cruz y Leon Guerrero, or Manuel Sablán y Rosario, are some of the natives of the Marianas whose stories and professional trajectories as teachers can be partly retraced.

This study delves into the contextual background of the 1800s Mariana Islands, shedding light on the biographies and determination of these educators, hitherto silenced by colonial history and overlooked in post-colonial narratives. Since they navigated adversity and facilitated access to modern primary education for generations of children who in turn shaped the language and culture of the Mariana islands, their resilience stands as the untold story of the complex interplay of education and colonialism in the Pacific.

The topic of public education during the Spanish times has been addressed, among others, by Frederick Fox, S.J., in his dissertation *Official Spanish Policy Concerning Elementary Education in the Philippines from 1863 to 1898, compared with Official American Policy from 1900 to 1935* (Fox, 1952). Among those studying the role of the Escuela Normal in the Spanish Philippines, the works of Andrew Clain (1914), James Meany (1982), and Jesuit historian and mentor of mine Fr. Jose Arcilla, S.J. (1988), are essential sources of academic knowledge, needed for this paper. In more recent times, Philippine scholars have addressed the work of Filipino women in the context of Spanish colonialism. Maria Luisa Camagay wrote a chapter on the *maestras* in her seminal work *Working Women of Manila in the 19th Century* (1995, pp. 61-79). Similarly, the work on *The Women of Malolos*, by Nicanor G. Tiongson, has a chapter dedicated to the teachers, pedagogy and other details of Filipina *maestras* of primary education during the late Spanish times in the Philippines (2004). Grace Concepcion has outlined the role of primary school teachers in the development of colonial society in Luzon (2012, 2014). As far as Guam is concerned, it was Maritza del Priore who first endeavored to complete an overview on education during the Spanish times (1986). Professor Lawrence Cunningham, an expert in the history

⁴ While I acknowledge the importance of using the official spellings for CHamoru, Hagåtña, or Guåhan, in this article I keep the spelling used on the archival documents of the era, in order to retain the original scope of meaning used at the time. For the same rationale, I also respect the original order of surnames used in Guam and the rest of the Mariana islands at the time: the personal name first, followed by the father's surname, then the conjunction "y" (meaning "and"), and finally the mother's surname. Gratitude is due to Anne Perez Hattori and Richard K. Olmo for providing valuable insights, edits, and corrections.

and culture of Guam and the Chamorro people, was the first scholar to report in 1995 about the existence of two unnamed Guam students in the *Escuela Normal de Maestros*.⁵

The Background

In 1857 the corresponding Spanish government passed the so-called “Moyano Law”, granting education as free, universal, uniform, and compulsory. It prescribed that every village of at least 500 inhabitants should have one school for boys and one for girls. A town should have another pair of schools for every 2,000 inhabitants. A provincial capital should have at least one school of higher education.⁶ The law extended to the Philippine islands in 1863, regulating also “indigenous schools”, as the wording of the law specified in a truly colonial manner. In the Mariana islands the law seems to have been implemented at least in part, as early as 1858, during the lengthy term of Governor Felipe de la Corte. He issued a comprehensive set of instructions encompassing number of schools, instructor’s salaries, assistance of students, curricula, etc., at first centered in Guam only due to logistical limitations of communicating with Rota, Tinian and Saipan. The instructions he issued inaugurated the modern public education system in the Mariana islands, on January 11, 1862.⁷

Parents were required to send all children between four and eleven years of age to school, with a small fine for non-compliance, regardless of their gender. This age range was different from what the Moyano Law prescribed, which was from six to fourteen. De la Corte considered it was more suited for the island’s community that students leave school early. After all, only primary education could be provided, so they would be better off learning a profession as early as possible, to secure their future maintenance.

As a result of that law, Guam and the rest of the Mariana islands were to consolidate the number of existing schools, which would be financed in part by government financial support complementing local municipal taxes. The schools were to be gender-segregated, as was common at the time. Agaña was to have five *maestros* and two assistants, and two *maestras* with four assistants, so each yearly batch of pupils could be under direct training and supervision of at least one of them. Just in Agaña there were 200 boys, and an equal number of girls of school age (de la Corte, 1875, p. 229). The school in *Barrio de Santa Cruz* was for primary education, boys aged 4 to 7, and the rest, aged 8 to 11, were to attend the *Colegio de San Juan de Letrán*. The *barrios* or districts of Anigua, Asan and Tepungan, were to have one instructor each, for the instruction of schoolboys, although in reality only Anigua had a Teaching Assistant, while Asan and Tepungan had just Assistants. The three of them were compensated with just a token of one peso monthly. For the rest of Guam, two *maestros* were in Agat, so one of them could service the Sumay school. Umatac, Merizo and Inarajan had one *maestro* each. In those early years the monthly salary for each of the five town *maestros* was three pesos.

From the 1860s onwards there were a small number of Chamorros who undertook academic studies in Manila, to become teachers of primary education. Thanks to the funding of the historic Royal Endowment or *Obras Pias* of the *Colegio de San Juan de Letran de Agaña*, founded in 1671, a small but

⁵ Personal communication to the author, May 16th, 2019.

⁶ Ley Moyano of September 9, 1857. Articles 100, 101, and 104. Cited in: Añón Abajas, Rosa María. *La arquitectura de las escuelas primarias municipales de Sevilla hasta 1937*. El Salvador, Universidad de Sevilla. Secretariado de Publicaciones, 2005. P. 25. Footnote 7.

⁷ LCW, Item 94. File 8. Pdf page 449. Later references found in colonial records mention 1861, likely just an error but referring to the same foundation. See: NAP, Varias Provincias Marianas 1856-1898, SDS- 4353.

significant number of educators received training in the formal aspects of modern or Western teaching, at no financial cost to themselves. These Chamorro maestros, along with the cohort of town teachers they must have helped train, and with their Filipino and Spanish colleagues, represented a social group that gained new importance in the society of the late 19th-century Marianas.

The academic institution for teacher training was the *Escuela Normal de Maestros de Instrucción Primaria* (Normal School for Teachers of Primary Education) founded in Manila on January 22, 1865, and which still exists to this day as the *Philippine Normal University*.⁸ Different training schools for teachers were opened throughout Spain, including the Spanish Philippines. The law making primary public education universal, in effect in the Philippines in 1863, resulted in the creation of the *Escuela Normal de Maestros* in Manila (Meany, 1982).

With its students popularly known as *Normalistas*, the school was run and managed by Jesuit priests. Initially, the school was for men only but it was followed by its counterpart for women *Escuela Normal de Maestras*, first in 1871 in Manila, then reopened on March 11, 1892; and a second school for female teachers in *Nueva Caceres*, that had remained open since 1875 (Grifol y Allaga, 1894, p. 5). To be admitted one had to be at least 16 years of age if male, and 20 years if female; able to speak Spanish, know the Christian Doctrine, demonstrate by exam that one can read and write, and have a certificate of good conduct issued by their parish priest.

Both male and female trainees could either be boarders, or day students. The *Escuela Normal* allocated some free positions for students coming from provinces other than Manila, so among the trainees some were there completely free of charge. The Mariana Islands were not included among those provinces as the islands already benefited from the old Royal Endowment which could cover the fees for two or more native candidates. That seems to have been the case for the Chamorro students that attended.⁹

The Torres y Díaz Brothers

Juan and Luis de Torres y Díaz were two of the main instructors on Guam in the second half of the 19th Century. Sons of Jose de Torres and Vicenta Diaz, Luis was born in 1842, and Juan in Agaña in 1853 (Ramirez, 2016, pp.55,56).¹⁰ They were all well-known persons in the city, coming from the *Ramas de Torres Mannakhilo'*, one of the most prestigious families of the Mariana islands during the later decades of the Spanish administration.

As of now, no references to Luis have been found among the records of the *Escuela Normal*. A brief reference to Luis de Torres is made by Guam history enthusiast and Capuchin friar Eric Forbes, in an entry of his informal yet always interesting blog (Forbes, July 1, 2011, paleric.blogspot.com). Forbes draws from undisclosed sources apparently found in Spanish archival records, which mentions Luis de Torres as having been expected to undertake studies in the *Escuela Normal* in the early 1860s. Author

⁸ Presently, the *Philippine Normal University* considers 1901 as its founding year; the year when it was elevated to the category of University and secularized during American colonial administration. Such a claim has been contested by different authors and historians who wrote on the actual origin and background of the institution. See: Meany, James J. "Escuela Normal de Maestros." *Philippine Studies*, vol. 30, no. 4, 1982, pp. 493–511. *JSTOR*, <http://www.jstor.org/stable/42632632>. Accessed 29 Feb. 2024.

⁹ Andrew Cain. "History of the Spanish Normal School for Men Teachers in Manila. 1865-1905". In *The Philippine Journal of Science*. 9. 2ed. April 1914: 123-171. 136.

¹⁰ The birthyear of Luis and of Juan are confirmed by: Victor F. Mallada, O.A.R., *Padron de Almas Año de 1897*. Pdf page 18.

Andrew Cain referred to two unnamed students from Guam who attended the *Escuela Normal* in its early years (Cain, 1914, p. 136). I believe one of them was Luis de Torres. He seems to have conducted the said studies, as further research has revealed that he was initially appointed *Maestro Primero* of the *Colegio de San Juan de Letran* in Agaña on January 31, 1868, and took office months later, on May 1 of the same year.¹¹

Seemingly as a result of training within the family, by the mid-1880s his brother Juan was running a private school for elementary education, which must have been located at Juan's own residence in Agaña, Barrio de San Ignacio.¹² By 1884 Juan was married to Juliana Perez.¹³ In spite of his mestizo background and Spanish upbringing, being "of Spanish origin" as he described himself, Juan de Torres identified himself as a Chamorro, and spoke the Chamorro language. This phenomenon of fluid identity is common across Hispanic societies. Creoles, mestizos, and Hispanicized indigenous individuals, families, and communities, identified themselves with the land, culture, and people, of their birthplace, as circumstances dictated. They also retained the advantages bestowed by the colonial context, maintaining a privileged social position compared to their fellow community members. This dynamic reflects the complex power structures and inequalities inherent in colonial societies, where certain individuals and groups benefited from their affiliation with the ruling class at the expense of those who did not.

Caught in the political storm that followed the murder of Governor Pazos, Juan de Torres was detained, interrogated, and a search was conducted at his home. He was innocent of the claims made by other local residents accusing him of being involved in the alleged conspiracy to murder the Governor, and the search on his residence produced no results, so he was eventually freed. Juan himself declared that those accusations were slanderous, and in words that may be reflecting the outrage he must have felt, he added "...that he owes everything he is to Spain, and that he has been fond of Spain since childhood." He indeed had the full trust of the colonial administrators, as he worked in the judiciary offices of the provincial government. Confidence in his work extended to all previous governors, to the point that they let him take work home, instead of having to work on it inside official premises. In his own words, "...please note that all the governors, including Señor Borredá, have had great confidence in the deponent by entrusting him with tasks of the court, to the extent that, if unable to attend the offices to handle them, they would bring the work to his home".¹⁴

During those agitated times, his brother Luis de Torres may have been removed from his teaching position by executive decision of the Governor. By 1891 Luis was teaching in the *Colegio de San Juan de Letrán*, with a monthly salary of 20 pesos. In 1893 he officially earned the position of *Maestro de Entrada*, through a public job opening (1894, p.2894). Since it's a position he held before as *Maestro de Ascenso*, this second official appointment may be the result of an earlier dismissal, but this remains a mere hypothesis. The said blog by Fr. Eric Forbes adds the following to his biography:

¹¹ LCW, Item 96. File 9. Pdf page 497. Agaña, November 3, 1892. Surname Torres is illegible. Comparison with other records reveal that the only teacher with the name Luis, was Luis de Torres.

¹² For the location of the said private residence, see: Malia Ramírez. *La Sangri Yama*. Eres Book publishing. Manila, 2016. P. 57.

¹³ Together they had three children: Jose (1884), Juan (1885), and Maria (1885). According to the 1897 census, they lived in the Cabecera no. 2 of D. Francisco de Castro, along with two sisters, the widower Rita (b. 1845) and Maria (b. 1866) Salas, perhaps being a typo for "Salar". Victor F. Mallada, O.A.R., *Padrón de Almas Año de 1897*. Pdf page 18.

¹⁴ LCW, MARC Vol. 18, Item 82. Declaration of Juan de Torres y Diaz. January 6, 1884. The other references to Juan de Torres' identity and background have been taken from different depositions within the same source.

“...he was a member of the Chamorro Junta or Council, a group of five prominent Chamorros appointed in 1899 by American Commander Taussig to assist interim Governor Joaquin Perez, a Chamorro. The Council was short-lived. Luis later went on to serve as a judge in the American courts of Guam” (Forbes, July 1, 2011, paleric.blogspot.com).

Don Felipe de la Cruz y León Guerrero

The second nameless student mentioned by Cain must have been Felipe de la Cruz y León Guerrero, or Felipe Cruz. He was born in Agaña in 1847, from Manuel Felipe de la Cruz, a 24 years old man from Guam, and his wife, a woman from the León Guerrero family. A smallpox epidemic ravaged the Mariana islands by the time Felipe was barely nine years old. By the time he turned 18, he was sent to Manila under the auspices of the Royal Endowment, and probably through the determination of Governor de la Corte (de la Corte, 1875, pp.229-230).¹⁵ He was to study in the recently inaugurated *Escuela Normal de Maestros*.

When Felipe Cruz began his studies around 1866, Manila was still reeling from the severe damage caused by a devastating earthquake that had struck three years earlier. At the time, The *Escuela Normal* was situated at *Calle Real de Palacio 3*, Intramuros, within the old walled city, occupying rented premises. The majority of Felipe's classmates were boarders from various provinces across the Philippines. He was one of only three non-boarding students, residing elsewhere in Manila, but still receiving school materials free of charge. His other two non-resident classmates were peninsular Spanish, who probably resided with their parents or tutors. Felipe Cruz may have been staying with relatives already living in the city or its suburbs, perhaps hosted by the Augustinian Recollects, or living on his own.

In 1869, just as the democratic revolution was unfolding in Spain, Felipe Cruz graduated in Manila.¹⁶ His final grade was a modest “Regular” (Fair), but he earned and received his official title of *Maestro*, nonetheless. Holding the diploma certifying that he got the academic and professional preparation to be a teacher, implied a higher salary and better working conditions. Felipe Cruz gained the required practice and experience by managing a school, the one located inside the orphanage *Hospicio de San Jose*, still existing and still located in Manila’s *Isla de la Convalecencia*. Cruz ran its school for more than two years, from March 1, 1868, until August 8, 1870.

Impeccably accredited, he returned to Guam a few months later, where he was appointed the tenured position of *Maestro de entrada* at the *Real Colegio de San Juan de Letrán de Agaña* on October 1 of 1870. He took office the very same day, and 27 years later he was still in active service.¹⁷

It may have been that same year, 1870, that he married María de León Guerrero y Gregorio (ca. 1845-1909). The couple had four children together: José Cruz y de León Guerrero (1871-1919), Antonia Cruz y de León Guerrero (1873-1909), Francisco Cruz y de León Guerrero (1878- ?), and Josefa Cruz y de León Guerrero (1880-1928). The mere fact that he was chosen to study in Manila, means that besides the training itself Cruz likely had intellectual inclinations, and he seemingly maintained them throughout his life. His children may have benefited from it as they were probably trained or educated

¹⁵ He mentioned the intention of sending one student in the Escuela Normal de Maestros.

¹⁶ NAP, Manila Complex. SDS-19096. 1860-1898. Bundle 24. Image 1095. Original pagination S-609 and S-610. His name was listed as Felipe Cruz, perhaps shortened from Felipe de la Cruz.

¹⁷ LCW, Item 96. File 9. Pdf page 497. The reference of the Hospicio de San Jose is found in that document as well.

privately by him. His daughter Antonia Cruz y de León Guerrero became the *Maestra Ayudante* in Agaña's school for girls in the late 1890's.

Felipe Cruz, like a large number of Agaña Chamorros of his generation, was a fluent Spanish and Chamorro speaker. His full knowledge of the vernacular was an asset for the local colonial government, as he worked as sworn translator in legal procedures in 1894.¹⁸ Furthermore, during the term of Governor Juan Marina (1897-1898), Felipe Cruz assisted in the administrative matters related to an international incident in Saipan regarding Japanese traders who were suspicious of challenging the local authorities. Felipe Cruz's name, along with fellow clerk Juan del Rosario, appeared in print in one of the legal proceedings published in the *Gaceta de Manila* (1897, p. 810).¹⁹

Felipe Cruz was confirmed as principal of the Public Schools in 1899, when most if not all of the positions of the local government appointed during the Spanish administration were extended by the first US Navy governor of Guam, Captain Richard P. Leary (Farrell, 1986, p. 111). Shortly after, the US Navy closed down the 226-year-old *Colegio de San Juan de Letrán*, where Cruz had served as *maestro* for almost thirty years, and renamed it the "R. P. Leary School". A stunning end for an institution that was older than the United States itself, which can only be the result of a neo-colonial agenda.

In the following years Felipe Cruz did some work as official witness for Guam's judiciary.²⁰ He passed away on November 9, 1918, aged 71, seemingly as a result of an epidemic that ravaged the island, just as it happened when he was only a child.

Don Manuel Sablán y Rosario

By the mid 1880's the sponsored scholarship for Mariana islanders at the *Escuela Normal de Manila* had been discontinued. Governor Olive recommended to reinstate it:

The student scholarship position for the Escuela Normal should be reestablished, in order to enable an indigenous inhabitant of the Marianas to take courses and obtain a teaching degree. Then he should take charge of the school at Agat. Upon receiving his degree, whoever follows him at the Escuela Normal should take charge of Saipan, etc., so as to successively supply the schools of Rota, Merizo, Inarajan, Tinian, and Sumay, in accordance with their needs and importance. In like manner, a scholarship position should be created at the Escuela Normal for female teachers from the Marianas. The objective would be to supply female teachers for Agaña and, sequentially, for the pueblos, in the manner described above to supply male teachers (Olive y Garcia, 2006, p. 130).

The scholarship was likely reestablished rapidly, because in 1888 another native of Guam was sponsored to travel to Manila to attend professional and academic training in the *Escuela Normal de Maestros de Instruccion Primaria*, this time in newly inaugurated premises. The chosen student was

¹⁸ NAP, Varias Provincias, Marianas 1850-1897. SDS-4351. May 5, 1894. Reporting to Governor Galisteo de complaints against the Captain of the Port.

¹⁹ His name was mistakenly spelled as two separate names, Felipe Cruz, and then Leon Guerrero, as if his maternal surname was referring to someone else named Leon.

²⁰ Genealogical data on Felipe de la Cruz and his participation as witness in 1901, courtesy of renown Guam genealogist Jillette Leon-Guerrero. There is a land registry record for Felipe Cruz dated on August 21, 1902 at: MARC, SDC 030. Dept. Land Management Guam. Filed: Number 206; Bundle 9; Original box #6 (A).

Manuel Sablán y Rosario, of the Sablán branch known as “Ramas de Te”.²¹ Born in Agaña in 1867, he was the son of Jose Sablán y Pangelinan and Maria del Rosario y Flores.²²

During the academic year 1889-1890 at the *Escuela Normal*, Sablán was undertaking his second course. One course ahead of him, but sharing the same premises, were future luminaries of Philippine history such as Artemio Ricarte and Nemesio Bartolome (soon-to-be military leaders of the revolution), and Melesio Cojuangco (grandfather of Cory Aquino, President of the Philippines in 1986). Manuel Sablán was taking an active part in the multiple subjects and classes that he had to attend in order to graduate and was recognized and celebrated for it. He must have been talented in music and reading, since during the second course he won the first award in the music course (Organ in particular), and the second award in the reading course (*Gaceta de Manila*, 1890, p. 455).²³ Those awards are not only indicators of his fields of strength, but also of his overall determination to excel.

By 1892 Manuel Sablán had graduated and was in possession of his official diploma of *Maestro de Ascenso*. After returning to Guam, he submitted to Governor Gómez Hernandez a request to be the teacher of Agat’s school for boys, which in terms of number of Chamorro residents was the most important town of the Marianas after Agaña. The final confirmation of the position still had to be received from Manila, but the Governor avoided bureaucratic delays that could hinder the continuity of the classes in that town and granted Sablán’s request on September 17 of the same year. Sablán took office two weeks later, on October 1, 1892.²⁴

In 1894 Manuel Sablán married Rita de Torres y Martínez, with whom he was to have twelve children.²⁵ By 1897 he and his family were living in Agaña, at the *Cabecería* No. 3, of Vicente Mesa, not far from other prominent Agaña residents like D. Justo Dungca or much closer to Sablán’s house, D. Enrique Millinchamp.

Manuel Sablán was a member of the First Guam Congress in 1917, along with his brother Juan (Farrell, 1986, p. 173). In later years Sablán suffered a form of cancer, and to receive medical treatment he travelled to Saipan, then known to have better healthcare options than those available in Guam under the US Navy. He passed away in Agaña in 1933, aged only 66 (Ramirez, 2016, p. 151).²⁶ One of his nephews, son of his younger brother Pedro, was the renowned Ramon Sablan y Manalisay, celebrated in Guam as the first Chamorro medical doctor.

²¹ The full name may have been Manuel Ezequiel Sablán y del Rosario. Malia Ramirez. *La Sangri Yama*. Eres Book publishing. Manila, 2016. P. 103. Position of surnames adjusted here for consistency.

²² The birthyear is taken from the or official Census of the Mariana islands of 1897, published as *Padron de Almas*. Genealogist Malia Ramirez mentioned 1864 as his birthday, see: Malia Ramirez. *La Sangri Yama*. Eres Book publishing. Manila, 2016. P. 104. An alternative genealogy at: "Pedigree Resource File," database, *FamilySearch* (<https://familysearch.org/ark:/61903/2:2:3F1K-XK6> : accessed 2024-02-25), entry for Manuel Rosario Sablán; "Randy and Amelia Pereira" file (2:2:2:MM6H-C51), submitted 2018-02-04 by Randy Pereira [identity withheld for privacy].

²³ *Gaceta de Manila*, March 27, 1890. P. 455. This same reference includes the names of Cojuangco, Ricarte, and Bartolome.

²⁴ LCW, Item 96. File 9. Pdf page 492. This reference to the diploma he earned contradicts the few bits of family lore gathered much later, in the 1980s, according to which Sablán did not complete his training: “Manuel was educated in a seminary school in the Philippines. He did not complete his seminary training and returned to Guam circa 1886.” Malia Ramirez. *La Sangri Yama*. Eres Book publishing. Manila, 2016. P. 160.

²⁵ Jose (1894-), Ramon (1896-) Joaquina, Guadalupe Lucia (1901-1988) Jose II, Manuel Noberto, Higinio Antonio (1909-1952), Rosario Bienvenida (1913-), Asuncion Socorro, Maria Soledad, Maria Josefina, and Fidel (1918-1970).

²⁶ Reference to his cancer and travel to Saipan for better medical care, gathered from the same author on a personal communication to me on February 28, 2024.

Juan Mendiola

A few years after Manuel Sablán graduated, there was another native of the Marianas, presumably Chamorro, sponsored to attend Manila's *Escuela Normal* as a non-boarding student. He was the 20-year-old Juan Mendiola,²⁷ who joined the *Escuela Normal* on or around the year 1894. By then the facilities, equipment, and overall standing of the learning institution was improving as compared to earlier decades. Electricity, a telephone line, a state-of-the-art modern observatory, and other newer equipment were among the technical improvements Mendiola benefited from. The *Escuela Normal* itself had officially been elevated to the *Superior* category the year before and plans to elevate it to a university had already been made at the Ministry of Overseas in Madrid.²⁸

Like his predecessors from the Marianas, Juan Mendiola seems to have taken a pro-active part in the instruction process while in Manila. One of the classes he attended included World's Geography, particularly the geography of Spain and the Philippines, in both human and physical aspects. Lesson 32 of that course was devoted to the geography of the Mariana islands, which must have been familiar to him.²⁹

One of the other subjects Mendiola had to take during the school year 1895-1896 was History of Spain and the Philippines. The first lesson focused on the conceptual definition of history, while lessons 2-19 delved into the history of Spain. Starting from lesson 20, the course shifted its focus to the history of the Philippines. This segment included an overview of the original inhabitants of the Philippines, the ethnic diversity of the archipelago, addressing their ancient religion, trade, and culture. Lesson 29, more directly related to Juan Mendiola's background, was devoted to the history of the Mariana Islands since their Christianization. Topics covered included the figure of San Vitores and the Chamorro revolt against the Spanish conquest:

"Lesson 29:

- Conversion of the Marianas to Catholicism.
- Fr. Sanvitores.
- Interim periods in the Government from 1669 to 1690.
- Señor Cruzat y Gongora. Highlight of his term of Government.
- Revolt of the Marianos" (Gaceta de Manila, 1895, p. 497).³⁰

Some of his classmates must have been high performing students, including young Gregorio Maria de Nieva, a 16-year-old Filipino from Mindoro who later in life became a politician in the independent Philippines and publisher of the journal *The Philippine Review*. Another distinguished classmate was Florentino Peñaranda (1876-1938), from Barugo in Leyte, who, after graduation established a private school in his hometown. Peñaranda also actively fought during the war against the United States and was the last officer to surrender on the Visayan island of Samar (Philippine Legislature, 2005, p.77).

²⁷ NAP, Manila Complex. SDS-19096. 1860-1898. Bundle 24.

²⁸ See the reference to these plans made by M. H. del Pilar, at *La Solidaridad*, No. 67. Madrid, November 15, 1891. P. 558. The *Escuela Normal* was eventually made a university in 1901, during the American regime, with the name *Philippine Normal University* and resetting to that year its foundation.

²⁹ Along with the geography of the Caroline islands, and the Jolo archipelago. *Boletín Oficial del Magisterio Filipino*; Year I, no. 0006 (June 1895). P. 108.

³⁰ . "Lección 29. -Conversión de las Marianas al catolicismo. -P. Sanvitores. -Interinidades en el Gobierno desde 1669 a1690. -Sr. Cruzat y Gongora. -Rasgo principal de su gobierno. -Sublevación de los Marianos".

Peñaranda and Nieva shared memories of their youth and time at *Escuela Normal*, and perhaps of their 1895-96 history classes with their classmate Juan Mendiola, since both were among the seven students who received honorable mentions upon completing the History of Spain and the Philippines class of 1895-96. However, Juan Mendiola was the sole recipient of the First Prize, as noted in the official bulletin of professional teachers in Spanish Philippines. Mendiola was awarded for his diligence as a student, having earned and accumulated an extraordinary number of points throughout the course (*Boletín Oficial del Magisterio Filipino*, 1896, pp. 66-68).³¹

Mendiola continued his seemingly promising career, and the following school year (1896-1897) was enrolled for the 3rd course. That must have been quite a complicated time, in the turmoil of the Philippine revolution. By 1897, shortly before the US claimed sovereignty over Guam, Mendiola was not among the working instructors in any of the schools of Guam nor the rest of the Mariana Islands. His whereabouts afterwards remain unclear at this point. At the turn of the 20th century someone sent an envelope addressed to “Juan Mendiola, *Maestro de Escuela*” (schoolteacher) in Cavite. It could suggest that Juan Mendiola had graduated but remained in the Philippines,³² perhaps engaged in the political developments led by Emilio Aguinaldo in the struggle for Philippine independence from Spain and the United States of America.

Summary and Conclusion

Schools in the Mariana islands must have served as centers of social activity, and not only for the children themselves. When classes were not taking place, meetings of the municipal officials or of the leading citizens could take place in the village schools. While classes were being conducted, other community members such as parents, siblings, or other relatives may have been in the vicinity, to accompany the children back home, or to distribute food, etc. Many of the instructors had to supplement their income with other work. Some of the children could not attend at certain times of the year, or on specific occasions. Children of different levels were taught in the same classroom, so internal segregation of space probably took place inside each class. Countless contingencies must have altered the theoretical, ideal way of school performance.

The network of elementary schools in the Spanish Mariana islands became in the 1800s spaces of curiosity and learning, where the instructor and the pupils must have occasionally engaged in lengthy, energy consuming processes. The primary schools established in the Spanish Mariana Islands must have fostered substantial engagement between instructors and pupils. Within the colonial context, these schools also were spaces of authority for indigenous men and women, and to a certain extent, spaces of resistance as well.

The team of indigenous teachers from Guam, Saipan, and Rota, who worked during the late 1800s, played a crucial role in shaping the public education system. By 1890, these dedicated individuals, many of whom were elderly, had devoted decades to their educational mission. Their role was conducted with the most modest salary, among the opposition or disinterest of many parents, and in spite of the frequent lack of support or resistance from government officials. Their important mission extended well beyond education. Besides the authority bestowed upon them as government employees, they had public recognition attached to their work. Accredited teachers were automatically

³¹ While his other classmates were recognized in other subjects, Mendiola was only once.

³² “Philippine Historical Covers”, *Philippine Journal of Philately*. 1948. P. 15. Envelope owned at the time by Filipino collector Att. Luis Meneses.

part of the town's *Principalía* or ruling class, equivalent to the municipal corporation governing the community. Town mayors could not impose any disciplinary measures nor corrective penalties on teachers, nor imprison them, unless they were caught in the very act of committing a crime or unless the possible cause identified by the mayor had also been endorsed by the parish priest.³³

Maestros and *maestras* were figures of public authority that were lawfully recognized as such. *Maestros* oftentimes assisted town mayors in processing or interpreting official communications from Agaña, in conducting judiciary processes, or attesting to an official act.³⁴ For instance, Mariano Taitano and Pedro de la Cruz, *maestros* of Agat and Merizo respectively, who in May 1870 interpreted official communications for their respective *Gobernadorcillos*, were consequently acting as Directorcillos or assistant secretaries for their mayor.³⁵

A contextual background of the 1800s Mariana islands allows us to assess the determination of the educators, either Chamorro, Spanish, or Filipino, men and women of humble origins, silenced by colonial history, invisible to post-colonial narratives, who confronted all unfavorable scenarios and colonial impositions, to facilitate access to modern elementary education for thousands of children.

Archival Documents

LCW: Library of Congress, Washington

NAP, National Archives of the Philippines

MARC SDC: Micronesian Area Research Center, Spanish Documents Collection.

LCW, Item 20. Pdf pages 321-322.

LCW, Item 96. File 9. Pdf page 492.

LCW, Item 96. File 9. Pdf page 497.

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MARC, SDC 030. Dept. Land Management Guam. Filed: Number 206; Bundle 9; Original box #6 (A).

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³³ Article 19 of the regulations for the *Escuela Normal de Maestros*, as drafted for Decree on August 1860. NAP, Manila Complex Leg. 24. 1860-1898. SDS-19096). S-215.

³⁴ As per the orders of Governor Santa Maria on April 27, 1844. Cited in: Marjorie G. Driver, Omaira Brunal-Perry (Eds.). *Reports Concerning the Marianas. The Memorias of 1844-1852*. I cite the report of Governor Gregorio de Santa María. *Descripción de las Islas Marianas. 1844*. P. 42-43 for the original Spanish. For the English translation, not fully precise, see page 17.

³⁵ LCW, Item 20. Pdf pages 321-322. Orden Circular. Agaña, May 7, 1870.

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The Impact of Peer Feedback on Fostering Communication Skills and Improving Project Outcomes

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Abstract

This study focuses on the pedagogy of learner's preparedness to engage in a higher learning environment. The purpose of this study was to explore the impact of reciprocal peer feedback on fostering communication and improving project outcomes in a 4th and 5th grade GATE classroom in a public Elementary school in the Southern part of Guam. The results show that participants showed growth from the initial (pre) to the final (post) project. Most important, observed was an increase in frequency and quality of classroom communication which created a highly engaged environment. Data from the participant perception survey indicated that most participants found peer feedback to be a valuable and enjoyable learning tool. All participants (100%) found that the experience helped to build effective communication among peers. The perception survey also revealed that some participants felt it could have a negative impact on self-confidence, struggled to write good feedback and worried about the effect it would have on peer relationships. This suggests the importance of having mitigating practices in place to ensure the successful implementation of reciprocal peer feedback in the classroom.

Keywords: peer feedback, communication skills, project outcomes

Introduction

The Guam Department of Education's (GDOE) mission is to prepare students for life by ensuring all students receive a high-quality education that will prepare them for post-secondary education, the workforce and civic engagement. Strategic priority two further states that students will graduate with work ready skills needed to thrive in the 21st century (Guam Department of Education [GDOE], 2022). ACT Work Keys is an assessment tool that is utilized to assess career readiness among our island's students. The goal stipulated in the strategic plan is that 50% of students will earn a certificate of gold or higher. Currently, there are only 19% within that range (ACT Work Keys, 2022; GDOE, 2022). Guam Community College's Graduate Employment Report for the classes of 2018-2020 shows that out of 324 graduates, only 54% of those graduates were able to find full-time employment (Okada, 2018). The 2020 University of Guam alumni survey indicates that of 890 graduates, only 56% were able to find employment within 0 to 6 months of graduation (Ruane, 2020).

Employers are the consumers of our educational system. According to The National Association of Colleges and Employers (NACE), only 57% of employers looked at an applicant's grade point average as a screener for open positions (NACE, 2021) implying that workforce readiness extends well beyond mastery of content knowledge (Bowen & Shume, 2020; Elmore, 2021). Employers' workforce readiness surveys indicate the need for other valued workforce skills (Gray, 2021). Communication is ranked as one of these valued workforce skills (Society of Human Resource Management [SHRM], 2015), and is also identified as one of the eight competencies for a career-ready workforce (NACE, 2021).

There is clearly a workforce readiness gap that needs to be addressed. What can be done to mitigate this issue? As educators, the impact we have on our students must extend well beyond the school year we service them. GDOE's Five Year Strategic Plan (SP), adopted in April of 2022 by the Guam Education Board, Strategic Priority #2; Curriculum, Instruction and Assessment Goal 2; states that all GDOE students will graduate from high school prepared to engage in life-long learning and contribute to the economy with the academic and work-ready skills necessary to thrive in 21st Century society. The SP lists Effective Communicators as one of four characteristics of graduate outcomes. (GDOE, 2022). Additionally, Effective Communicators is one of four Student Learner Outcomes (SLO's) identified in our school community.

Communication is described as the ability to exchange information, ideas, facts and perspectives clearly and effectively with persons inside and outside of an organization (NACE, 2021). Engaging students in communication-focused learning activities through their K-12 experience will help better prepare them for higher learning environments and to be successful in the future workforce (Bowen & Shume, 2020). Peer feedback in the classroom is one research-based strategy used to engage students in communication-focused learning. Peer feedback can occur in the classroom setting through verbal and written means and engages students in their own learning process (Huisman et al., 2020). Through this process, students can use and develop their communication skills as they modify their thinking or behavior for the purpose of learning (Huisman et al. 2020; Hwang, 2016).

The purpose of this study is to explore the use of peer feedback as a learning tool to foster communication skills and to see its impact on student project outcomes. The research questions guiding this study are:

RQ 1] What impact does reciprocal peer feedback, with a focus on communication skills, have on student project outcomes?

RQ 2] What are student perceptions of using reciprocal peer feedback as a learning tool?

Literature Review

Purpose of Peer Feedback

The purpose of peer-feedback is to provide guidance and to promote the students' comprehension of knowledge through the process of reviewing work (Hwang et al., 2016). Peer feedback engages students with similar backgrounds in the learning outcomes of their peers by providing an opportunity for students to play the role of an instructor, share their knowledge and give suggestions for improvement (Hwang et al., 2016, Mercader et al., 2020). Students provide comments to peers during the peer-feedback process, as well as accept recommendations; creating an environment of active, self-directed learning that includes discussion, social interaction, reciprocal teaching, and appreciation (Hwang et al., 2016; Simonsmeier et al., 2020). Through this process, students can co-construct

knowledge through meaningful social interactions and encourage communication with their peers as they monitor, evaluate and regulate their learning (Ajjawi & Boud, 2017; Er et al., 2021). The quality and the effectiveness of the peer feedback process depends on the feedback practices employed (Lechermeier & Fassnacht 2018; Man et al., 2022; Simonsmeier et al., 202).

Benefits of Peer Feedback

Peer feedback has been shown to be an effective strategy to improve academic achievement and can lead to higher quality project outcomes (Mercader et al., 2020; Simonsmeier et al., 2020). As a method that actively engages students in their own process of learning and changing perspectives from an examinee to an examiner, students have a chance to see peers' and their own work from the teacher's viewpoints (Hwang et al., 2016; Man et al., 2022). Peer interactions and feedback allow students to not only have more innovative ideas, but also learn to make reflections through viewing peers' work (Hwang et al. 2016). Through this in-depth reflection, peer feedback has the capacity to improve students' learning and academic self-beliefs (Er et al., 2021; Hwang et al., 2016; Simonsmeier et al., 2020). Through these processes, peer feedback supports collaborative interaction, and opportunities for dialogue which can strengthen the social-relational aspects of feedback and reduce the power-differentials within the classroom, through a relationship that is reciprocal (Ajjawi & Boud, 2017; Boud & Carless, 2018). Appreciating feedback is dependent on both students recognizing the value of feedback and understanding their active role in its processes (Boud & Carless, 2018; Man et al., 2022).

Methodology

Research Setting

This research study was conducted in a fourth and fifth grade GATE classroom at a public elementary school in Southern, Guam during the Spring Semester of school year 2022-2023. The school had a population of 495 students with the following demographics: 51% boys, 49% girls, 90% Pacific Islander, and 10% other ethnic identities. The school followed a traditional elementary school schedule with a total of 313 instructional minutes per day (see Table 1). The number of participants in this study was 20 participants which included thirteen females and seven males; two of which were identified as English as a Second Language (ESL) students and none of which were in Special Education. The study was conducted over a period of seven weeks for about 110-150 minutes per week during participants regularly scheduled pull-out time (see Appendix H).

Intervention

This seven-week study was conducted using a mixed methods approach to explore the impact of peer feedback on communication skills and project outcomes. In the first two weeks of the study, all participants worked independently to complete a project that offered a solution to a given problem scenario. Project instructions and expected outcomes were explained by the instructor (see Table 1).

Table 1 Research study timeline weeks 1-2

Week	Tasks
<p><i>Week 1</i> <i>180</i> <i>minutes</i></p>	<ul style="list-style-type: none"> ● Introduce Project: Whole group instruction on expected outcomes; pass out criteria and rubrics. ● Random distribution of one of four (A, B, C, D) problem scenarios to be the focus of individual projects. ● Allow two hours to independently complete the project. ● Spread participants out to minimize conversations and to encourage focus. ● Do not provide feedback while participants are working
<p><i>Week 2</i> <i>120</i> <i>minutes</i></p>	<ul style="list-style-type: none"> ● Individual presentation of projects ● Instructor will grade projects using rubrics (This counts as the initial/pre; See Appendix A) ● Allow participants to take notes on projects presented (This will be used later to help the feedback activity) ● No feedback will be provided

In week three, the instructor started facilitation of peer feedback intervention for all participants (see Table 2). The intervention consisted of four phases: teacher instruction, guided practice, peer feedback groups and application of feedback. The goal of week three was to establish an understanding of peers as well as the purpose and characteristics of feedback.

Table 2 Research study timeline week 3

Week	Tasks
<p><i>Week 3</i></p> <p><i>60 minutes</i></p>	<p>Peer Feedback Intervention:</p> <p>Phase 1: Whole Group Peer Feedback Instruction:</p> <ul style="list-style-type: none"> ● Solicit student responses for the following questions: How do peers influence us? Why is it important to connect with peers? What is feedback? What are some examples of positive and negative feedback? ● Discuss the purpose, guidelines, and characteristics of good feedback (What is good feedback? see Appendix B) ● Feedback is specific, constructive, actionable and kind

In week four, phase two, the first hour was spent on guided peer feedback practice (see Table 3). Tell-Ask-Give (T.A.G.) was introduced as “Let’s Play TAG”. Participants worked in small groups to look at sample work and provided feedback using Google jam board (see Appendix C).

Table 3 Research study timeline week 4

Week	Tasks
<p><i>Week 4</i></p> <p><i>60 minutes</i></p>	<p>Peer Feedback Intervention:</p> <p>Phase 2: Guided Peer Feedback Practice:</p> <ul style="list-style-type: none"> ● Practice writing good feedback through TAG: Tell-Ask-Give ● Display work samples in Google jam board and engage participants in the practice of providing feedback in small groups (see Appendix C). ● Discuss and edit as a whole group to ensure feedback characteristics are reflected. Provide good examples. ● Engage in conversation and share personal experiences on the impact of being both on the giving and receiving end of feedback. ● Discuss and check for understanding

As seen in Table 3 this process encouraged active communication and collaboration as participants engaged in discussion in both small and large group settings. This allowed participants the opportunity to practice verbalizing and writing good feedback in small groups before sharing with the whole group. This also allowed all participants to see good examples of feedback developed by their peers. The editing process as a whole group allowed participants to see how feedback can be clarified to fit the characteristics of good feedback and fulfill its intended purpose. This discussion stressed the importance of including communication through conversations in the reciprocal peer feedback process.

Phase three of the intervention was also implemented in week four and carried on into week five (see Table 4). In this phase participants applied what they practiced in Let’s Play TAG as they provided feedback on initial projects.

Table 4 Phase 3: Peer Feedback Groups

Week	Tasks
<p><i>Week 4</i></p> <p><i>90 minutes</i></p>	<p>Phase 3: Peer Feedback Groups:</p> <ul style="list-style-type: none"> ● Participants sit in designated groups of 4 along with the projects completed in week 1. Each peer group has a participant representing each scenario (A,B,C,D) ● Each participant has 3 peer feedback forms ● Each participant completes one feedback form for each member in their group. Encourage each TAG to be completed in 15-20 minutes, but allow more time if needed. ● Once all TAGs are completed, allow 20 minutes for participants to review the feedback they received from their peers ● Whole Group Conversation Circle: 15 minute discussion of feedback received and reaction to feedback (facilitated by instructor) ● Peer Group: 20 minutes of conversation time to clarify or elaborate on comments received (5 minutes each participant)

Grouping was intentionally done to ensure that scenarios were not duplicated within the group. This meant every peer group had one scenario “A” project, one scenario “B” project, one scenario “C” project, and one scenario “D” project. This grouping was done to encourage support over competition. Feedback was provided to initial projects using the TAG method practiced during phase two of the intervention. Three TAG forms were provided for each participant (see Appendix D). Participants were given 15-20 minutes to provide feedback on each project within their peer group and did not rotate to the next project until all members in the peer group were ready to do so. By the end of the peer

feedback rotation each participant had completed three TAG forms, and in return had received three TAG forms on their initial project.

Participants were instructed to circle or highlight any feedback that might need some clarity. As a whole group, participants shared how they felt about the feedback activity by expressing an emotion and reason to support it. For example, one participant said she felt embarrassed because she was pointing out things that her classmate was missing, but knew she made the same mistakes. The honesty shared during this portion of the intervention was very impactful. This whole group conversation circle was facilitated by the instructor and was an important step to take prior to small peer group conversation circles to ensure there was a positive mindset going into peer group discussion. Peer group conversation circles ended this phase of the intervention. The classroom environment during this activity was very active and conversations were focused on developing a better understanding of the criteria and on project improvement. This discussion along with feedback on TAG forms led to the last phase of the intervention; application of feedback (see Table 5).

Table 5 Phase 4 of the Study: Application of Feedback

Week	Tasks
<i>Week 5</i>	Phase 4: Application of Feedback:
<i>165 minutes</i>	<ul style="list-style-type: none"> ● Two hours independent working session to begin making edits to project (based on feedback received in TAG forms) ● Encourage conversational feedback (informal) with peer group members as changes are being made ● 15 minute presentation practice with a partner

During the working session, participants were encouraged to continue informal conversational feedback with the members in their peer group to help them along the way. The last 15 minutes of this phase was designated for paired presentation practice.

In week seven, participants presented their edited project to the class (see Table 6). Projects were graded using the same rubrics as the initial project. This score represents the final or post project score. Participants were permitted to ask questions or give positive feedback after each presentation. After all final project presentations were completed, the perception survey was administered via Google forms.

Table 6 *Research study timeline week 7*

Week	Tasks
<p><i>Week 7</i></p> <p><i>150 minutes</i></p>	<ul style="list-style-type: none"> ● Individual presentation of projects ● Teacher will grade the project using the same rubrics as the initial project ● Post presentation questions and feedback from the audience will be allowed ● Perception Survey via Google forms ● Read through items to ensure clarity of statements ● When all surveys are done, encourage sharing of thoughts on the peer feedback experience/share experiences

Data Collection

The data for this research study was collected from initial (pre) and final (post) project rubric scores (see Appendix A), and student perception surveys (see Appendix E). Both data sources supported the impact of the peer feedback intervention on communication skills, project outcomes and student perception.

Initial/Pre and Final/Post Project Rubrics (see Appendix A)

The project rubrics was used to score both the initial (pre) and final (post) project presentations. The components of the rubrics included creativity, critical thinking, creative problem solving, and communication skills.

Student Perception Survey (see Appendix E)

At the end of the study (week seven), participants were given a perception survey through Google forms, which consisted of 14 statements. Participants shared their perception on the value and impact of utilizing peer feedback in the classroom. The survey reflected components of communication, project outcomes and assessed how participants felt about the effectiveness and purpose of peer feedback as a learning tool.

Results and Analysis

Research Question 1

What impact does reciprocal peer feedback, with a focus on communication skills, have on student project outcomes?

Initial (pre) and final (post) scores average increase supports that the intervention had a positive impact on communication and overall student project outcomes (see Appendix F).

In sum, the average of pre to final score difference on a rating scale of 1-4 in the four different project categories are:

Creativity - Pre = 1.9; Post= 3.1 for a 1.2 score increase.

Critical Thinking - Pre = 1.9; Post =2.9 for a score increase of 1.0.

Creative Problems Solving - Pre= 1.7; Post=3.0 for a score increase 1.3.

Communication - Pre=2.2; Post = 2.3 for a score increase of 1.0.

These overall positive results support studies that indicate academic achievement and good project outcomes can be attributed to the features of integrating peer feedback into the classroom design by actively engaging students in organizing the learning content through review of work, providing feedback and reflecting on their own work as well (Boud & Carless, 2018; Hwang et al., 2016; Man et al, 2022; Mercader et al., 2020).

Most importantly, studies support that peer feedback interactions and experiences help to build academic self-beliefs (Er et al., 2021; Hwang et al., 2016; Simonsmeier et al., 2020). More valuable than academic scores are how learners grow. Participant 12 (see Appendix F) struggled a great deal during the initial project. She was frustrated and upset that what she had created was not the vision she had in mind. Things were falling apart and when it came time to present her initial project, she displayed a lack of confidence. After the peer feedback intervention, she was very motivated to make her edits and expressed that she now knew what to do.

Participants 4, 8, 10, 16, and 17 had been in the GATE pull-out program for less than a year and felt intimidated with their more veteran classmates. Not only were these participants able to earn commendable (3) or exemplary (4) scores in two to four skill areas because of the intervention, but they also quickly bonded with their classmates and demonstrated a stronger sense of belonging.

Participants 3, 5, 6, 11, 12, and 22 had five or more years of experience in the program. Not only were these participants able to increase scores by half a point to three points, lifting their scores in all skill areas to commendable (3) or exemplary (4), they too became more reflective and expressive in articulating and accepting peer feedback. The trust cultivated among these peers in the feedback process indicates an impact on the appreciation and use of feedback (Ginkel et al., 2017; Sheffler & Cheung, 2019).

Research Question 2

What are student perceptions of using reciprocal peer feedback as a learning tool?

A perception survey (see Appendix E) was used to analyze participants' perception of the peer feedback experience. Overall, participants held a positive perspective about using feedback as a learning tool and indicated that the intervention helped to improve peer communication as well as provide information valuable to the successful outcome of their projects (see Appendix G).

Survey items 1, 2, 5, and 11 gauged participant perception of peer feedback as a learning tool. Over 85% of the participants agreed or strongly agreed that peer feedback provided valuable information

that helped to understand strengths and improvements needed for the project and guided the changes that were needed.

Survey items 3, 4, 13, and 14 reflect the affective effects of the peer feedback experience. Over 80% of the participants agreed or strongly agreed that reading about their strengths created a sense of pride and felt concurrence with feedback received from their peers and enjoyed the feedback experience.

Survey Items 7, 10 and 12 show that over 87% of participants agreed to strongly agreed that they knew how to complete a peer feedback form and valued the engagement in conversations to clarify feedback. Participants also felt the experience improved effective communication among their peers.

Conclusion

The aim of this study was to examine the impact of reciprocal peer feedback on fostering communication and improving project outcomes. Findings support that peer feedback intervention had an overall positive impact on fostering communication and improving project outcomes. Participants had an increase from initial (pre) to final (post) projects. Additionally, the perception survey results support that participants felt that peer feedback is an effective learning tool that helps to develop a deeper understanding of concepts, promotes communication and has a positive affective impact on learning and academic self-beliefs. Most important was the overt impact on sense of belonging, understanding for each other, and ability to respectfully articulate critical evaluation as well as accept those from peers.

Strengths

This study clearly strengthened student communication skills.. The local and national issue that prompted this study was the need to address the workforce readiness gap that exists with our graduates. Employers are not looking at academics or grade point average as a screener for open positions, but rather look for other valued workforce skills; implying that workforce readiness extends well beyond mastery of content knowledge (Bowen & Shume, 2020; Elmore, 2022; Gray, 2021; NACE, 2021). Communication ranked high as one of these valued workforce skills (Society of Human Resource Management [SHRM], 2015). Engaging students in communication-focused learning activities through their K-12 experience will help better prepare them to be successful in higher learning environments and the future workforce (Bowen & Shume, 2020).

Experiencing this part of the intervention was by far my favorite part of the intervention. Participants were actively engaged, especially during conversation circles when they had to express their reactions or feelings toward the feedback received. I was surprised at their willingness to share and appreciated the level of honesty participants demonstrated when sharing how they felt about the feedback they received. This allowed me to applaud the positive mindsets of some, but to also nurture the shift of others to be more accepting of feedback before engaging in smaller peer group conversations. Participants understood the value of engaging in conversation to clarify misunderstandings or negative emotions. Peer group conversations were active, and the classroom was rich with focused noise, which are indicators of a highly communicative environment.

Limitations

The limitations of this action research study were attendance, school events, program, scheduling, and time. The intended number of participants for this study was 24, but the actual number ended up being 20 participants due to absenteeism. The study was conducted on a weekly basis, so an absence

or early release situation made it very challenging to get the participant caught up with the rest of the participants. Another limitation was trying to schedule a 7-week study around other school or grade level events that frequently interrupted the schedule.

Action Research Experience

The value of reflection and perseverance are two of many takeaways from this experience. This study showed me the importance of reflecting not just on overall positive outcomes or individual successes, but on patterns, isolated cases and student perceptions as well. I cannot recall in my undergraduate studies or in my years in the classroom having to look at data in this manner. More importantly, reflecting to understand why the outcome was the way it was; and making changes to mitigate those causes for an improved outcome. Maybe the problem was in the design. Maybe I need to take student perception into consideration. Imagine if I analyzed every set of data as if it was part of an action research study; what would I learn about my students and my teaching practices? Everything I do has the potential to be an action research study. This constant cycle of reflecting and shifting and doing requires a level of perseverance that only I can push myself to have. Sometimes I feel at the top of my game and at other times totally defeated and worn out. This is when I must focus on “my why” which believing my role is to be an impactful step in every student’s path to success.

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Appendix A

Project/Presentation Rubrics

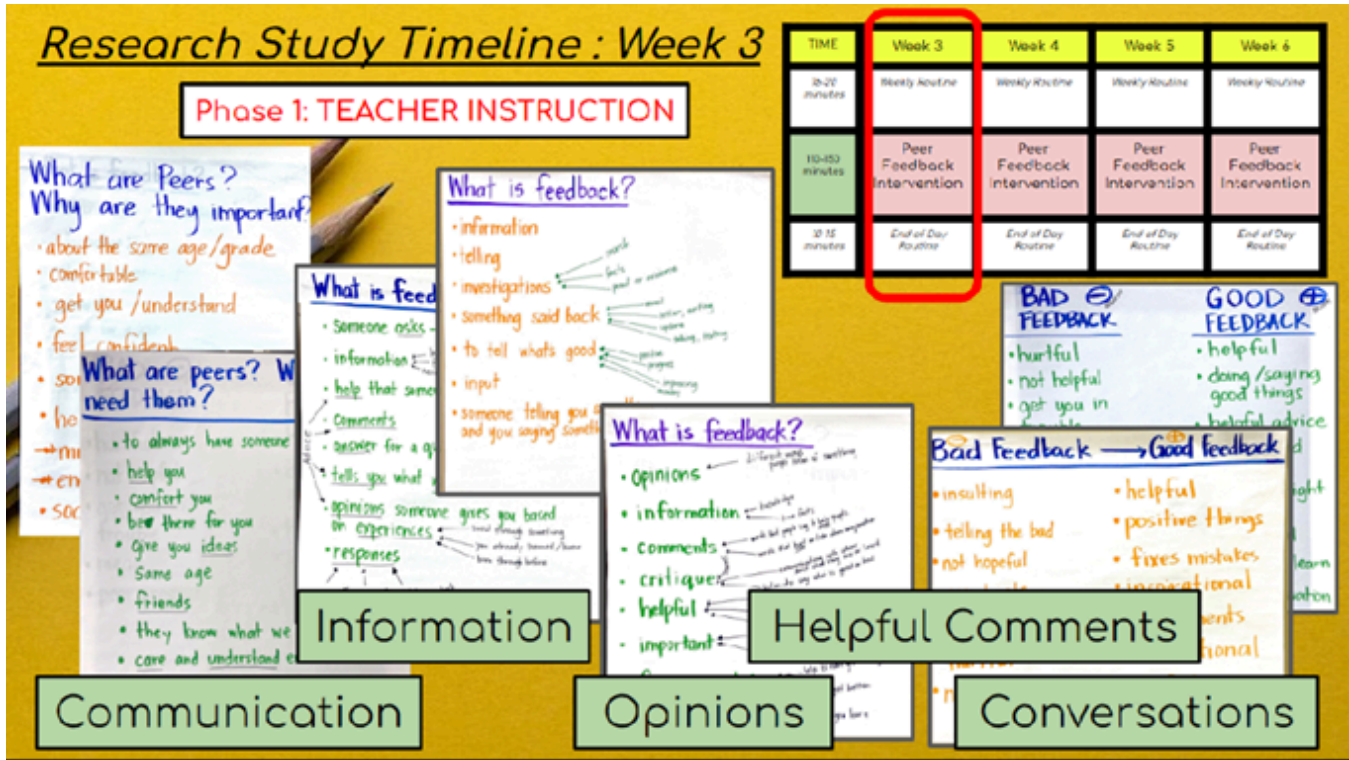
Name: _____ GL: _____ Date: _____

Title: _____

Project Components	1 Limited	2 Satisfactory	3 Commendable	4 Exemplary
Creativity	Shows minimal to no creativity and originality in project design, idea and approach.	Shows some creativity and originality in project design, idea and approach.	Demonstrates creativity, originality and detail in project design, idea and approach.	Demonstrates creativity and originality and detail in project design, idea and approach. Display is unique, innovative and extremely detailed in its features and functions.
Critical Thinking	Follows little to no aspects of the project criteria. Does not demonstrate an understanding of the intended plan and purpose of the project.	Follows some aspects of the project criteria. Demonstrates partial understanding of intended plan and purpose of the project.	Follows all aspects of the project criteria. Demonstrates a good understanding of the intended plan and is able to make good connections to purpose and function.	Goes beyond required aspects of the project criteria. Demonstrates a clear understanding of the intended plan and makes detailed, supported connections to purpose and function.
Communication (Presentation Skills)	<input type="checkbox"/> Voice/Articulation: mumbles and speaks too softly throughout the presentation <input type="checkbox"/> Fluency: no organization of ideas and very difficult for the audience to follow <input type="checkbox"/> Eye contact: None	<input type="checkbox"/> Voice/Articulation: inconsistent and difficult to hear and understand some of the time <input type="checkbox"/> Fluency: ideas jump around making it difficult for the audience to follow at all times <input type="checkbox"/> Eye contact: Minimal	<input type="checkbox"/> Voice/Articulation: loud and clear throughout most of the presentation <input type="checkbox"/> Fluency: organized, logical sequence that is easy for the audience to follow <input type="checkbox"/> Eye contact: Most of the time	<input type="checkbox"/> Voice/Articulation: loud and clear throughout the entire presentation <input type="checkbox"/> Fluency: well organized, logical and interesting sequence that keeps the audience captivated <input type="checkbox"/> Eye contact: Almost always
Product	Does not provide a visual which supports and represents ideas	Minimal effort into creating a visual which supports and represents ideas	Provides a complete and quality visual which supports and represents ideas.	Provides a complete and quality visual which supports and represents ideas in more than one way.
Communication (Response to Questions)	Does not understand information and is unable to respond to questions.	Has minimal understanding of information, and is able to answer questions at a basic level.	Demonstrates good understanding of information and is able to clearly articulate responses to questions.	Demonstrates good understanding of information and is able to articulate and elaborate responses to questions.

Appendix B

Phase 1: Teacher Instruction and Student Discussion Artifact



Appendix C


Phase 2: Guided Practice using the TAG method on Google Jam Board

Research Study Timeline : Week 4

Phase 2: GUIDED PRACTICE: LET'S PLAY T.A.G.


TIME	Week 3	Week 4	Week 5	Week 6
10-11 AM	Weekly Routine	Weekly Routine	Weekly Routine	Weekly Routine
11-12 PM	Peer Feedback Intervention	Peer Feedback Intervention	Peer Feedback Intervention	Peer Feedback Intervention
1-2 PM	End of Day Routine	End of Day Routine	End of Day Routine	End of Day Routine

Use your observation skills and draw a replica of this monarch butterfly.




TELL	ASK	GIVE
I really like the monarch butterfly. It's so colorful!	What are the wings made of? Are they soft?	How do you think it feels? Is it itchy or smooth?
I like the colors on the wings.	Why are the wings black?	Do you think it's warm or cool?

Draw a picture of a cat jumping over a river in the jungle.




TELL	ASK	GIVE
The cat is nicely colored.	Where was the cat jumping to?	The cat would have a hard time jumping a river that big!
The river is nicely drawn.	Where was the jungle?	The cat could be a little more colored.
The cat is nice and the jungle!		

Create a space that a family of 3 can comfortably live in. Make sure the structure is safe and includes all the basic amenities the family would need. Leave one wall exposed so we can look inside.



TELL	ASK	GIVE
I like the house. It's so colorful!	What is the house made of? Is it safe?	How do you think it feels? Is it itchy or smooth?
I like the colors on the walls.	Why are the walls black?	Do you think it's warm or cool?

Use your observation skills and draw a replica of this monarch butterfly.



TELL	ASK	GIVE
I really like the monarch butterfly. It's so colorful!	What are the wings made of? Are they soft?	How do you think it feels? Is it itchy or smooth?
I like the colors on the wings.	Why are the wings black?	Do you think it's warm or cool?

Appendix D

Feedback provided by: _____ Project # _____

T.A.G.			
<i>Specific</i>	<i>Actionable</i>	<i>Constructive</i>	<i>Kind</i>

T Tell (write) 2 things that were done well or that you like	A Ask (write) 2 questions you have or wonder about	G Give 2 suggestions that may help to improve or complete the project.

BONUS: Write 1 or 2 Presentation Tips (Use your notes from presentations):

Appendix E

Peer Feedback Survey

I. Demographic information

Gender: _____ Male _____ Female

Grade Level: _____ 4th Grade _____ 5th Grade

II. Place a checkmark in the box that best describes how you feel about each item below:

1 = Strongly Disagree (**SD**) **2** = Disagree (**D**) **3** = Not Sure (**NS**) **4** = Agree (**A**) **5** = Strongly Agree (**SA**)

ITEM	SD 1	D 2	NS 3	A 4	SA 5
1. Peer feedback provides valuable information.					
2. Peer feedback helps me understand what my strengths and areas of improvements are.					
3. Reading about my strengths makes me feel proud.					
4. Most of the time, I agree with the feedback I get from my peers.					
5. Peer feedback guides the changes I make in my work.					
6. Peer feedback that points out improvements I can make are hurtful, make me angry and feel less confident.					
7. I know how to complete a peer feedback form.					
8. Sometimes it's hard to think of feedback to give my peers.					
9. I fear that I might lose friends if I don't give good feedback.					
10. Conversations and open discussion with my peers helped me to better understand the feedback received					
11. Giving feedback to others helped me improve my project and presentation					
12. Peer feedback experience helped me improve the way I can effectively communicate with my peers.					
13. I enjoyed the use of peer feedback as a learning tool.					
14. Giving and receiving peer feedback is a waste of time.					

Appendix F

Participant #	Grade	Creativity			Critical Thinking			Creative Problem Solving			Communication			Mean Score		
		PRE	POST	GAIN	PRE	POST	GAIN	PRE	POST	GAIN	PRE	POST	GAIN	PRE	POST	GAIN
P1	4	1.5	1.5	0.0	1.0	1.5	0.5	2.0	2.0	0.0	1.5	2.0	0.5	1.5	1.8	0.3
P2	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
P3	4	2.0	4.0	2.0	2.0	3.5	1.5	2.0	4.0	2.0	3.5	4.0	0.5	2.4	3.9	1.5
P4	4	2.5	4.0	1.5	2.0	2.5	0.5	2.0	4.0	2.0	2.0	3.5	1.5	2.1	3.5	1.4
P5	4	1.5	3.0	1.5	2.0	3.5	1.5	2.0	3.0	1.0	2.0	3.5	1.5	1.9	3.3	1.4
P6	4	2.5	3.0	0.5	2.5	3.5	1.0	2.0	3.0	1.0	2.5	3.5	1.0	2.4	3.3	0.9
P7	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
P8	4	1.0	3.5	2.5	1.5	3.0	1.5	1.0	3.0	2.0	2.0	3.5	1.5	1.4	3.3	1.9
P9	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
P10	4	2.0	4.0	2.0	2.0	3.5	1.5	2.0	4.0	2.0	2.5	3.0	0.5	2.1	3.6	1.5
P11	4	1.5	3.0	1.5	2.0	3.5	1.5	2.5	3.0	0.5	2.5	3.5	1.0	2.1	3.3	1.2
P12	4	2.0	4.0	2.0	2.0	3.0	1.0	1.0	4.0	3.0	2.5	3.5	1.0	1.9	3.6	1.7
P13	5	2.0	3.0	1.0	2.0	2.5	0.5	1.0	2.0	1.0	1.0	3.0	2.0	1.5	2.6	1.1
P14	5	2.0	3.0	1.0	1.0	2.5	1.5	1.0	3.0	2.0	2.5	3.5	1.0	1.6	3.0	1.4
P15	5	1.5	2.5	1.0	2.0	2.5	0.5	1.0	2.0	1.0	2.0	2.5	0.5	1.6	2.4	0.8
P16	5	2.0	3.0	1.0	2.0	2.5	0.5	2.0	3.0	1.0	2.5	3.5	1.0	2.1	3.0	0.9
P17	5	1.0	3.0	2.0	1.0	2.5	1.5	1.0	3.0	2.0	2.0	2.5	0.5	1.3	2.8	1.5
P18	5	1.5	2.0	0.5	1.5	2.0	0.5	1.0	2.0	1.0	2.0	3.0	1.0	1.5	2.3	0.8
P19	5	2.5	3.0	0.5	3.0	4.0	1.0	2.0	4.0	2.0	2.5	4.0	1.5	2.5	3.8	1.3
P20	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
P21	5	3.0	3.0	0.0	2.5	2.5	0.0	2.0	2.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
P22	5	2.5	4.0	1.5	3.0	4.0	1.0	2.0	4.0	2.0	2.5	3.5	1.0	2.5	3.9	1.4
P23	5	1.5	2.0	0.5	2.0	2.5	0.5	2.0	2.0	0.0	2.0	2.0	0.0	1.9	2.1	0.2
P24	5	1.5	2.5	1.0	1.5	2.5	1.0	2.0	3.0	1.0	1.5	4.0	2.5	1.6	3.0	1.4
MEAN		1.9	3.1	1.2	1.9	2.9	1.0	1.7	3.0	1.3	2.2	3.2	1.0	1.9	3.0	1.1

Appendix G

Peer Feedback Survey

ITEM	SD 1	D 2	NS 3	A 4	SA 5	MEAN
1. Peer feedback provides valuable information.		1 4%	1 4%	11 48%	10 44%	4.30
2. Peer feedback helps me understand what my strengths and areas of improvements are.			3 13%	7 30%	13 57%	4.43
3. Reading about my strengths makes me feel proud.			3 13%	8 35%	12 52%	4.39
4. Most of the time, I agree with the feedback I get from my peers.			5 21%	13 58%	5 21%	4.00
5. Peer feedback guides the changes I make in my work.		1 4%	1 4%	8 35%	13 57%	4.43
6. Peer feedback that points out improvements I can make are hurtful, make me angry and feel less confident.	2 9%	9 40%	7 30%	4 17%	1 4%	2.70
7. I know how to complete a peer feedback (T.A.G.) form.			3 13%	17 74%	3 13%	4.00
8. Sometimes it's hard to think of feedback to give my peers.		1 4%	4 17%	12 52%	6 27%	4.00
9. I fear that I might lose friends if I don't give good feedback.	4 17%	7 32%	4 17%	4 17%	4 17%	2.87
10. Conversations and open discussion with my peers helped me to better understand the feedback received				14 61%	9 39%	4.39
11. Giving feedback to others helps me see improvements I may need to make as well.			2 9%	12 52%	9 39%	4.30
12. Engaging in the peer feedback experience helps me improve the way I can effectively communicate with my peers.			2 8%	19 84%	2 8%	4.00
13. I enjoyed the use of peer feedback (T.A.G.) as a learning tool.			2 9%	12 52%	9 39%	4.30
14. Giving and receiving peer feedback is a waste of time.	16 70%	6 26%	1 4%			1.35

Appendix H

School schedule for 4th and 5th grade students

4 th Grade	5 th Grade
Reading/Language Arts 8:30-9:30 (60 minutes)	Reading/Language Arts 8:30-10:30 (120 minutes)
CHamoru 9:30-10:00 (30 minutes)	
Reading/Language Arts 10:00-10:30 (30 minutes)	
Recess 10:30-10:45	
Reading/Language Arts 10:45-11:15 (30 minutes)	CHamoru 10:45-11:15 (30 minutes)
Math 11:15-12:15 (60 minutes)	Math 11:15-12:15 (60 minutes)
Content 12:15-12:45 (30 minutes)	Content 12:15-12:45 (30 minutes)
Lunch 12:45-1:30	
Content 1:30-2:43 (73 minutes)	Content 1:30-2:43 (73 minutes)
GATE PULL-OUT (Wednesdays 60 minutes/Thursdays 120 minutes)	GATE PULL-OUT (Thursdays 130 minutes/Fridays 50 minutes)
10 Minutes: End of Class Routine	10 Minutes: End of Class Routine
110-150 Minutes: Intervention	110-150 Minutes: Intervention
15-20 Minutes: Weekly Routine	15-20 Minutes: Weekly Routine

The Seven Heroes of Malesso' During World War II – Part II

JOAQUIN NANGAUTA NAPUTI

In the spirit of preserving our cultural values and promoting Island Wisdom (Robert F. Kennedy Library, n.d.), the University of Guam continues to share the knowledge passed down by our elders. Today, we delve deeper into the heroic actions of the seven brave men who led a victorious rebellion in the village of Malesso' during World War II.

Malesso' holds a unique place in Guam's history, as it is the only village that was not liberated by the U.S. Armed Forces but by its own villagers. It is a story that not many residents are aware of, but one that deserves to be told and celebrated.

On the fateful days of July 15 and July 16, 1944, Japanese Imperial Forces committed a horrific massacre at Tinta Cave and the Faha Area of Malesso'. The lives of several men and women were tragically taken. However, the events that unfolded on July 20, 1944, at sunset, would forever change the course of history for the people of Malesso'.



The Merizo co-liberators are Jose "Pop Tonko" Reyes, front center; Vicente Meno, Patricio Taijeron, Nicolas Ada, Mariano Nangauta, Jose Nangauta, and Juan Naputi. Jesus Barcinas (far right) was one of the six men that paddled to alert the Americans on July 21, 1944.

In a remarkable act of bravery, seven men rose up against the Japanese Imperial Forces, preventing a total massacre of the village. These courageous individuals were Jose S. Reyes, Mariano N. Nangauta, Jose N. Nangauta, Juan A. Naputi, Patricio S. Taijeron, Vicente M. Meno, and Nicolas A. Chargualaf. Their names, etched in the annals of heroism, were added to the monument in front of San Dimas Church on July 13, 2021.

To further honor their memory and valor, Public Law 36-109 was enacted, designating a portion of Route 4 in Malesso' as the "Seven Heroes of Malesso' Highway." This legislation, signed into law by

Governor Lourdes Leon Guerrero on October 12, 2022, serves as a lasting tribute to their heroic actions.

As the University of Guam embraces the promotion of Island Wisdom, we recognize the importance of honoring our past and preserving our cultural heritage. The story of the seven heroes of Malesso' serves as a powerful reminder of the strength and determination that resides within our island people.

But the story doesn't end there. In order to ensure that this priceless history is not forgotten, the oral tradition has been diligently passed down through generations. Juan Acfalle Naputi, Mariano Nangauta, and Jose Nangauta, shared their accounts with their son and nephew, Joaquin Nangauta Naputi. As a custodian of this invaluable knowledge, additional insight is provided below to give a glimpse into the remarkable bravery and resilience displayed by the seven heroes of Malesso'. Previous excerpts can be found in Volume 33, Fañomnåkan 2023 of the Micronesian Educator (Naputi, 2023). Let us continue to celebrate their memory and draw inspiration from their unwavering courage as we forge ahead, united in our commitment to preserving our cultural values and passing them on to future generations.

Hand-to-hand Combat

On July 20, 1944, at sunset, the plan was put into action. Jose "Tonko" Reyes shot the first Japanese and the other six (6) men engaged in hand-to-hand combat. This gave courage to other villagers who joined in the fight all the way to the work site at Atate. They killed most of the Japanese soldiers except for one who escaped.

World War II

It is because of this escapee that some villagers fear that a retaliation would occur by the Japanese that another group of men led by Jesus Barcinas rowed a canoe off to Dano and out to the open seas to inform personnel of the U.S. Armed Services that CHamorus are still inland.

Tinta & Faha Massacres

Every year villagers would honor these seven (7) heroes of Malesso'. A monument listing the names of the victims of Tina and Faha Massacres was erected in front of the San Dimas Church in Malesso'. On July 13, 2021, the plaque honoring the seven (7) Heroes of Malesso was finally added to the monument.

Courage & Valor

These men deserve the highest honor for their courage and valor, as their actions prevented a total massacre of the people of Malesso'. A monument with their names is befitting to honor them for their heroic actions.

References

Naputi, J. N. (2023). The Seven Heroes of Malesso' During World War II. *Micronesian Educator*, 33, 56-57.

Robert F. Kennedy Library. (n.d.). Sharing Island Wisdom. Retrieved from <https://www.uog.edu/student-services/rfk-library/island-wisdom>

The Aga' Treat: A Sweet Delight from Our Malesso' Lancho

MATILDA NAPUTI RIVERA

Once upon a time, in a beautiful village called Malesso', there lived a young girl named Maria. Maria loved the aga', or bananas, that grew abundantly on her family's lancho. Their lancho was filled with rows and rows of towering banana trees, each laden with delicious aga'.

Every morning, Maria would wake up to the sweet smell of ripe bananas wafting through the air. She would rush outside, eager to see what the day had in store for her and her favorite fruit. With a skip in her step, she would make her way to the wooden kitchen table where her mom and dad would always have a bunch of aga' waiting for her.

Maria's mom was a fantastic cook, and she always knew how to make the most mouthwatering aga' treats. She would often make bunelos aga', which were sweet banana doughnuts that would melt in your mouth. The sound of the sizzling dough hitting the hot oil would make Maria's stomach rumble with anticipation. And when they were ready, she would gobble them up, one after another, unable to resist their delicious taste.

But Maria's mom did not stop at bunelos aga'. She would also make madoya, a fried banana dessert made with a magical mixture of flour, milk, and eggs. The golden-brown madoya would be perfectly crispy on the outside, and soft and gooey on the inside. Maria would watch in awe as her mom skillfully prepared each madoya, frying them to perfection. And when she took her first bite, she would close her eyes, savoring the delightful burst of flavors.

As much as Maria loved the aga' treats her mom made, she also enjoyed eating the aga' plain. There was something simple and satisfying about peeling back the yellow skin to reveal the sweet, creamy fruit inside. It was the easiest dessert she could grab, and she loved how it always brought a smile to her face.

One day, as Maria sat under her favorite banana tree, munching on a ripe aga', a thought crossed her mind. "If aga' is such a wonderful fruit, why not share it with everyone?" she pondered. And that is when she got an idea.

Maria decided to organize an aga' treat festival in Malesso'. She invited everyone in the village to come and celebrate the deliciousness of aga'. People from far and wide gathered, excited to taste all the different aga' treats that Maria and her mom had prepared.

There were tables filled with bunelos aga', stacked high like golden towers. The aroma of freshly fried madoya filled the air, making everyone's mouths water. And of course, there were plenty of plain aga' for those who wanted to enjoy the fruit in its simplest form.

The festival was an enormous success, with laughter, CHamoru music, dancing, and the sweet taste of aga' filling the village. Maria felt immense joy as she watched everyone enjoy the fruit that she loved so much. It was a celebration of happiness, community, and the simple pleasures of life.

And so, if ever you find yourself in Malessó', do not forget to grab an aga' treat. Whether it is a bunelos aga', a madoya, or simply a ripe aga' to enjoy, you will be reminded of the wonderful story of Maria and her love for her favorite fruit - the aga'.

I Fina'setben Aga': Un Dilisiosu na Fina'mames Ginen in Lancho'ta gi iya Malesso'

Pinila': A.C. AGUON yan M.A. ANANIMOS

By: A.C. AGUON & M.A. ANANIMOS

Tâtette na tiempo, gi un bunitutu na songsong, iya Malesso', sumâsaga guihi un patgon palâo'an as Maria. Sen ya-ña mâsan aga', ginen meggai na trongkon chotda siha ni' mandodokko' gi lanchon I familia.

Kada oga'an, an makmâta si Maria, ha nginginge' gi aire i pao manmames na manmâsan aga'. Ensegidas malagu huyong, ha espipiha hâfa mohon para finalagon I ha'ani para guiya yan I mâs yaña na fruta. Kuma'dedeng guatu asta i lamasan kusina annai tehnga guaha na si nana-na yan si tata-na mapo'luluyi gui' na'-na aga'.

Sen maolek mama'tinas i nanâ-ña si Maria ya ha gef tungo' fuma'tinas mas manna'malago' na fina'mames aga' siha. Fihu bumuñelos aga', lalago' ha' gi halom pachot-mu gigon un kânno'. Gigon ha hungngok na mambebesbes i inafilton bunelos aga', sigi bumulokbok lokkue' i tiyan-na ni' minalago'-na. Ya yanggen esta manmasa nos kuantos granu, ha kalamot tres gi un gotpe sa' hinilat ni' minangge' sabot-niha!

Lao ti este ha' i buñelos aga' sina ha fa'tinâs-ña i nanan Maria. Guaha na biâhi na mama'tinas madoya, ayu I ma dibana I aga' pues na ma sumai gi binatten harinan âpaka', leche yan châda'. I umagaga' na masan inafilton madoya, paska gi sanhoyong yan manana' gi sanhalom. Nina'mamanman si Maria yanggen ha atan si nanâ-ña ni' finayi-na an ha pripara yan ha aflitu kada pidason madoya. Ya gi fine'nana na chinagi-na, ha huchom i mata-ña sa' ha gogosa I minanng'e' I sabot I madoya.

Achok ha' gof ya-ña si Maria todû I fina'mames na fina'tinâs nanâ-ña, ya-ña ha' lokkue' kumanno' i aga' na maisa. Semplisiu yan na'satesfechu ayu I an ha sufan tatte I amariyu na lassas I aga' ya umannok I mamemes yan manana' na fruta. Ya ayugue' etmas chadeddek na fina'setbe ni' sina ha ayek, ya gof ya-na sa' esta nina'ma'lalak mata-na ni' magof-na.

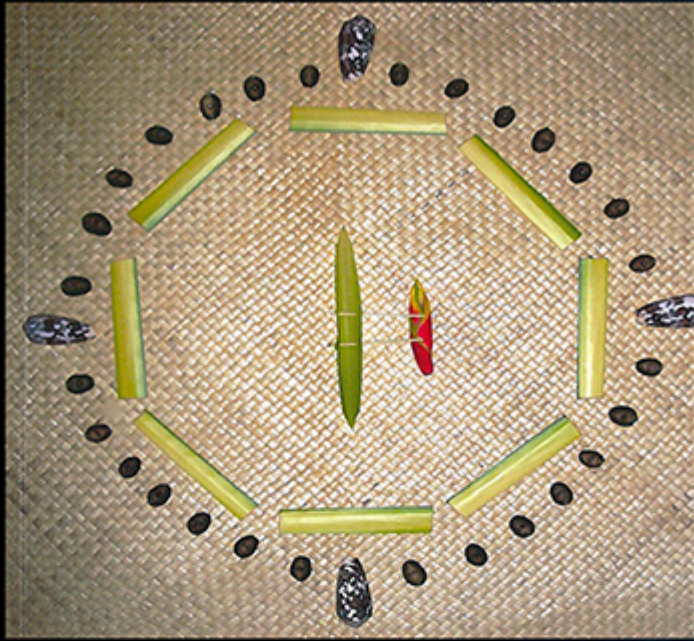
Un diha, mientras matâta'chong si Maria gi pâpa' etmas ya-na trongkon chotda ya manngangangas aga', matto gi hinasso-ña, na "Yanggen sen mânng'e' I aga' na fruta, maolekna mohon yanggen todû hit u ta fana'apatte.

Ha planeha si Maria un gupot put difirentes klasen fina'tinas aga' guatu gi iya Malesso'. Ha kombida todû i manaotao I sengsong para u ma silebra i manminanng'e' i fina'tinas aga' siha. Kantidân taotao manmâtto mansen animosu yan manmalago' para u fanmachagi i difirentes na prinipâran putahen fina'tinas aga' ni priniparan nanâ-ña yan guiya.

Bulala na lamasan chumochô manma plantayi guatu ni' meggagai na buñelos aga'. I pao-niha I inafilton madoya lokkue' nina'fanmalago' I bisita siha. Ya gi minagahet, abondansia manmana' guaha na aga' para hayi mumalago' chumagi I fruta na maisa.

Sumen maolek humuyong-na i gipot kun manmagof chalek, musikan CHamoru, baila, yan I manminanng'e' i sabot aga' ni' manhalom-tano' entre I sengsong. Nina'magof komplidu si Maria mientras ha a'atan todû I taotao siha ma gogosa I fruta ni' ha sen guaiya. Magahet na hunggan silibrasion minagof, kumunidat, yan semplisiu na minanng'e' lina'la' manmasusedi.

Pues, put siakasu na un diha sinedda' hao gi iya Malesso', mungnga maleffa manespiha hafkao na fina'tinas aga'. Achok ha' bunelos aga', madoya, pat aga' ha' na maisa, tieniki un nina'fanhasso ni' minagof estorian Maria yan I guinaiya-na ni' mas ya-na fruta – I AGA"!



Heiwa: Heiwa is the pushing of the canoe on the unfolded mat to demonstrate how a canoe will actually sail in the ocean from the departure island to the destination island. The navigator uses one or more stars or constellations and uses the faunan etak (primary reference island) and possibly a fauan yatil (secondary reference island) in tracking the course. Heiwa is also used to explain the feeling of the canoe's movement caused by the waves and swells hitting the canoe.

Image Design:
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