CREATIVITY, CULTURE, AND CONSTRUCTION: BRINGING DESIGN THINKING TO INDIGENOUS PRESCHOOLS

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Abstract

This paper presents the process of designing creative workshops that inform the construction of preschools in indigenous communities. The authors aim to answer the following: What is the most effective way to design and execute a workshop that enables community members of other cultures to create a preschool in their local neighborhood? How can this preschool foster and retain creativity among children through its architecture while remaining culturally celebratory and relevant? The authors use the Design Thinking process to develop a workshop for community leaders to conceptualize, ideate, and prototype these buildings. By combining discussion-based research on creativity in early education with the development process of the workshop (and its implementation in the Mayangna community in rural Nicaragua), the authors conclude that, to build a culture- and creativity-promoting workshop model that might be used around in preschool design around the world, the process must be highly adaptive, and indigenous voices must lead the project through longstanding relationships with continued input and redirection.

Keywords: Preschool education, creativity workshop, culture retention, indigenous community, design thinking.

1. Introduction

As global modernization rapidly spreads, indigenous peoples face difficulties in fostering and retaining their unique cultures. While each indigenous community is distinct, the issues faced are universal: loss of territory, language, traditions, and educational autonomy. This paper aims to address the last of these: government-monitored education that fails to effectively support indigenous education.

One of the authors has worked with education in Nicaragua for 18 years. Since 2017, he has developed a relationship with the Mayangna people of northern Nicaragua, a group that is facing the loss of culture. Through ongoing conversations, community leaders of the Mayangna village of Sakalwas have identified a need for culture-specific education among the Mayangna. Nicaragua's Ministry of Education (MINED) oversees curriculum, pedagogy, and structures of Mayangna schools, which it monitors for adherence to national standards, leaving little room for traditional Mayangna education.

However, while MINED controls the content and the teachers in the schools, conversations with the Mayangna, MINED, and other education professionals in Nicaragua suggest that there is leeway in the design of the physical space of the buildings. Discussions about education revealed the preschool setting as the ideal place for cultural learning and enhancement, as it is more loosely monitored by MINED. Using Stanford University's design thinking framework, the authors facilitated a workshop that aims to assist the Mayangna people as they fight to retain their culture.

Through this research, the authors aim to answer two questions: What is the most effective way to design and execute a workshop that enables community members of other cultures to create a preschool in their local neighborhood? How might this preschool foster and retain creativity among children through its architecture while remaining culturally celebratory and relevant?

In five stages, the authors created a workshop for the Mayangna. Discussions have been divided into categories of communication, social dynamics, process, participants and materials, and environment. The authors hope that by applying these conclusions to the existing workshop model, others invested in the education of indigenous peoples globally could create a workshop that empowers communities to design education for their culture.

2. Method

Over the course of nine months, ten workshops were developed culminating in the model outlined in the Results section. These workshops were guided by Stanford University's design thinking framework: empathizing with the end user, defining the problem and opportunity, ideating solutions, prototyping solutions, and testing the prototypes (Shanks, n.d.). In the development of the workshop for the Mayangna, the problem was defined before and after each phase of the project, empathy was threaded throughout, and ideating, prototyping, and testing were introduced repeatedly.

In the first phase of the workshop, the authors gathered a group of personal contacts who had expertise in either education, design, or lived experience in the Global South. After a short presentation of a country (Peru, Uganda, and Nicaragua), the groups of four worked to design a preschool built from materials of that country. After three rounds, participants were told to draw, without any limitations, the most creative preschool they could imagine. The second phase began tangible empathizing, bringing an adapted structure to Nicaragua. In two workshops, university students from different indigenous groups and students studying education drew four rounds of creative preschools: one that was open-air, one made of natural materials, one embedded with cultural symbols, and one without any limitations. These workshops, while producing creative drawings, did not yield realistic ideas for a physical structure.

Returning from Nicaragua for the third phase, the authors gathered connections who had experience working in other countries and in education and reevaluated, adding a prototyping stage to the workshop. Students of one of the authors participated in a workshop where they constructed the Nicaraguan students' drawings with craft supplies. In the fourth phase, three additional workshops were conducted that incorporated prototyping. In these, students first briefly researched another culture's symbols and traditions, then they drew and modeled a creative preschool that included those cultural symbols. Craft supplies were labeled with construction materials that might be used in the Global South. For example, foam sheets were labeled as "concrete," straws as "bamboo," pencils as "logs," etc., causing participants to think realistically and creatively work to solve problems together. Once finished, the students provided written feedback to each other on sticky notes.

3. Results

The final two workshops tested the process within the Mayangna communities of Sakalwas and Musawas. These workshops consisted of three steps: drawing cultural symbols, designing a school, and constructing the designs. The Mayangna community members worked in groups of four or five. They first drew and labeled five (or more) symbols that were important to Mayangna culture. Secondly, the groups drew a creative preschool building and were required to include five of their symbols within the structure. Facilitators encouraged participants to avoid ordinary building shapes. Finally, participants modeled their drawings with craft supplies labeled (in Spanish) as construction materials that could be used in their region to build a school. The groups built their models for nearly twenty minutes, and each shared their final product with the group at the conclusion of the workshop.

4. Discussion

In the process of conducting, evaluating, and adjusting the workshops, important themes emerged in five prominent categories: communication, social dynamics, process development, participants and materials, and environment. The subsequent ideas are lessons learned by the authors that proved to facilitate a workshop in another culture that yielded effective, creative results. This discussion aims to use the specific instances of workshops in the Mayangna communities of Sakalwas and Musawas to advise readers on how they might craft a working model that can adapt to other indigenous cultures.

4.1. Communication

One of the biggest challenges of executing an effective workshop is creating a system of communication that allows participants to understand facilitators' expectations without projecting the individual culture and creative ideas of the facilitators onto the participants.

Prioritize culture. Above all, make it abundantly clear the foremost goal of the workshop is to foster and preserve the richness of culture, allowing the participants to be the experts and the initiators. Be only a facilitator. Be engaged, listen, and build relationships. Give undivided attention to creations. If facilitators are not obviously invested and respectful, they cannot expect this of participants either.

Anticipate a language barrier. Workshop facilitators must be prepared to adjust messaging. If working in a second language for either the facilitators or the participants (or both), the timing of the workshop needs to account for either translation, repeated explanation, or any other means of

communicating. The content of the instructions should be simplified. Facilitators should note too that language impacts the comfortability of participants presenting ideas to others. Perhaps more importantly, anticipate that cultural norms and expectations can result in miscommunication or unanticipated hesitancy, hindering creative expression.

State the objective. Share with participants the objective of the workshop and the value of their presence. Skipping this stage, especially in another culture's context, can create confusion and mixed expectations for what is to come from the workshop. (In the authors' first in-culture workshop, participants were asked immediately to begin the symbol activity. Before the next stage, activity paused for ten minutes as participants inquired about the purpose of the activities. In the facilitators' haste to begin and the language barrier, they neglected to share the objective—to have participants think creatively about their community's preschool education. By beginning the second Mayangna workshop with an explanation, participants knew what to expect and could more fully invest themselves in the process.) Share with participants the benefits that will come out of the workshop for them. This gives them stake in the activities and pride in their work, ensuring better results.

Demonstrate expectations. In instructions, give examples of expectations. Emphasize creativity. Reinforce with phrases like "big, crazy ideas" and "non-traditional structures." The authors found that by bringing examples of pre-drawn ideas from their own culture, they could enable understanding and prevent copycat ideas. Live demonstrations through humorous skits were effective too.

Encourage labeling. Ask participants to consistently label drawings. This fosters further explanation and cultural sharing. Facilitators can learn from the labels later.

4.2. Social dynamics

Facilitators should plan for the nuances of social dynamics. Whether the workshops be taking place within their own culture or in another, interpersonal components of the workshop can affect the outcome greatly.

Understand power distance and dominance. Recognition of the hierarchical and familiarity structures in the room is key to creating a dynamic that maximizes creativity. What are the relationships at play? Who is the audience? Consider the dynamics between students and professors, men and women, parents and community leaders, young and old, etc. In the first day of Mayangna workshops, the authors found that in groups with both men and women, the men dominated conversations and design, while the women sat quietly, drawing and constructing as directed by the men. Separating the men and women for the second workshop allowed the women freedom to initiate and create a highly detailed, feasible, and creative structure.

Recognize the association to the project. Participants will have different levels of investment. Knowing how much group members care about results informs facilitators' behavior and communication. Students who are participating as a class exercise will behave differently than school parents who see direct value in the project.

Understand relationships. Participants' level of comfort with and respect for facilitators can affect results of the workshop greatly. Students who are accustomed to the authors' style knew what to expect; Mayangna people were more hesitant. Thus, the authors used humor and initiated individual conversations with community members before and during the workshops. Participant-to-participant relations affect results too—are there strong relationships? How confident are they interjecting or presenting? Are there power structures at play in gender, community role, or class? Facilitators might consider separating the dominant from the nondominant to maximize comfort and creativity. Additionally, facilitators must work together as a cohesive unit. They should have spent sufficient time preparing. Familiarity with each other's strengths and weaknesses allows facilitators to fill in communication gaps during the workshop. If possible, someone should be designated to translate into the necessary language. In the Mayangna workshops, the authors shared responsibility of the instructional portions and interjected when the other missed something. A third facilitator, a native Spanish speaker, could reiterate the instructions in more detail. A fourth facilitator, a Mayangna community member, served as a translator to Mayangna for further clarification.

Receive an invitation. Foremost, the question must be asked: *does the community want the facilitators to be there?* If the answer is *No*, the facilitators need to seriously reevaluate the purpose of the project. The Mayangna communities both had leaders who eagerly met with and shared more about their culture with the facilitators before and after the workshops. This led to personal relationship development that opened doors for future collaboration. The community hosts should be engaged throughout the workshop. If these leaders stay motivated and excited, they set an excellent example for the participants who might be feeling overwhelmed and confused.

4.3. Process development

Design thinking serves as an effective model for developing the practical aspects of the workshop, as it provides a flexible structure for adaptations. Specifically, it is imperative to thread empathy throughout the process. The facilitators' decisions about the activities and communications must be made with the participants' experience, personhood, culture, and empowerment at the forefront. Empathy informs many important adaptations to the process. Testing, too, is vital. The authors found it useful to conduct the workshops in settings within their own culture with familiar students at the university to hone the process.

Set an agenda. Facilitators should know their plan and decide whether to explicitly share the plan with participants. In the case of the Mayangna, the authors did not state all the steps before the workshop in order to save time. Timing proved to be a difficult but important piece of the puzzle. There must be ample time for creative thinking with room for misunderstandings and reexplanation. However, as ideas catch hold, it is important to keep the workshop moving even if groups have not finished (ie. set time limits on each step to motivate groups and make time for the later steps). At some point along the way, groups should be encouraged to present their work to the group. It is not efficient to do this after every step, but it allows participants to take ownership and share their culture while providing some closure to the activities.

Adjust constantly. Flexibility is imperative in workshop design. The process will continue to change, and the people benefiting from the workshop should remain the central catalyst of this change. The problem will continue to be defined along the way. Sometimes, elements must change during the workshop itself. If participants copy facilitators' examples instead of drawing from their own culture, or if they misunderstand, it may be best to take materials away, reexplain, and try again. This proved successful with the Mayangna. The authors also found that integrating participant feedback into the workshop did not translate well into the Mayangna culture. Participants were unfamiliar with sticky notes and unused to providing constructive criticism to their peers. Instead, most of them simply labeled elements of other groups' designs. The authors have not yet figured out a way to communicate this process successfully.

4.4. Materials and participants

Know the people. Workshop results are impacted heavily by the group of participants. Twenty-five to thirty participants are ideal for a manageable group that can be divided into smaller groups of four or five. Passing around a sign-up sheet that asks for name, relation to the school, number of schoolchildren in the family, and the community in which they reside all help when evaluating data. The stronger the connection to the schools, the more relevant the results. Nametags would be a useful addition. Participants can and should vary in age, income, gender, and community role to provide a comprehensive communal perspective. It is possible that this is the participants' first exposure to collective drawing and prototyping, which can pose both opportunities and challenges in the results. There will likely be participants who express a keen interest and understanding in the process, and this will be evident in their work and attitude. Facilitators should follow up with these standouts and exchange contact information for future engagement and perspective.

Bring supplies. For the purposes of this workshop, the following materials were found to be useful: large sheets of paper for drawing (approximately 2ft. x 3ft. [0.7m x 0.91m]); dark, thick markers of many colors; craft supplies that represent realistic construction materials of the host culture as denoted in the method, labels in a host language for the materials, and refreshments to allow for a brief break and an expression of gratitude. Participants' levels of familiarity with the craft supplies may affect timing of the workshop as well as results.

4.5. Environment

The Mayangna workshops were conducted within the existing schools. The authors found this practical, and it provided better context for the project. A school building allows for maximum comfort of participants. Small group activities are most effective when moveable chairs and tables are available. If these are unattainable, any method that groups can be arranged to draw collaboratively is preferable (compared to sitting in fixed rows). Community members might bring children of all ages to the workshop, as childcare may not be an option. Facilitators can anticipate many distractions, side conversations, and curious onlookers. It is imperative that workshop developers not only receive an invitation in the community but that they spend time learning about the host culture to maximize respect for community members, cultural learning, and value of time.

5. Conclusions and applications

After conducting the discussed workshops within indigenous communities, themselves, the authors have concluded that, for the project to be successful in empowering culture-specific education, it must be highly adaptive. Adaptations occur through macro reiterations of the design thinking steps in the process development and in micro adjustments during the workshops themselves. More importantly, culture must drive design. The voices of indigenous community members are the most valuable for an effective design that empowers lasting, culturally empowering improvements in education. Expert opinions are needed too—for maximum efficacy, creative initiatives must be met expertise in all connected fields.

The project discussed in this paper is ongoing. Moving forward, the authors will assemble a panel of experts (from varying cultural backgrounds) in the fields of design, education, architecture, and engineering. With focus groups and regular written communication, these experts will be reached for input, ensuring that each step of the following process is well-informed. Most crucially, community contacts in Mayangna villages will lead the design process through their input and communication after each stage of ideation of the product.

In the workshop development, the authors aimed to create a model that can be used, with minor adjustments, to empower any indigenous community to reclaim a culture-retaining education for its preschool children. Research was limited by language barriers and cultural understanding. Facilitators, as visitors from outside cultures, ultimately risk miscommunication, and a project such as this one must coincide with a willingness to build long-term relationships with the community. However, this research proposes a process—rather than a product—which other researchers might use to assist other indigenous communities facing culture loss in the revaluation of their education system. The authors invite further contact from anyone with expertise in the above fields or with close connections to indigenous communities around the world.

References

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