Refiguring the positioning through tabletop game redesign: What it means to engage in culturally-sustaining learning as a family

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Abstract: In this paper, we present our approach to culturally sustaining learning, enabling the contribution of non-dominant voices and cultural resources to collective learning activities. In our study, we proposed activities for families to redesign tabletop games with ideas, categories, and processes that reflect their interests and culture on their own time during the global pandemic. We collected data through online video communications and families sharing their own artifacts (e.g., photos, videos, and blogs). We describe how families expressed what matters to their members individually and collectively and how this was intertwined with shifting family members' relational positions.

I don't think it was as easy to relate to what was going through the minds of each creator of the game pieces…all of us had probably very different perspectives. Even within a family unit, it is probably really hard to even get on the same page because sometimes I am like, I don't get it, what is going on?

The mother of Family 1, during the final interview

The above excerpt was taken from the final online interview with a Canadian family (the parents and both daughters have Chinese ethnic background) who redesigned a tabletop game together. The mother shared her experience of recognising and reconciling the diverse perspectives within their family. In conceptualising this work, we were concerned about how Canada's public institutions perpetuate dominant cultures' deficit perspectives toward minority languages and cultures, despite being a pluralistic society with over 200 spoken languages and cultural origins. We introduced tabletop game redesign to family learning contexts to harness how tabletop games are played across generations (e.g., *Mancala* in Africa) and reflect cultures. Previous research has shown that game play and design position learners as individuals who engage creatively and critically with disciplinary ideas. In exploring culturally sustaining pedagogy of pursuing linguistic and cultural pluralism (Paris, 2012), we sought to address the deficit perspectives of seeing difference as incorrect and focusing on fixing what is deemed as problematic by exploring culturally sustaining pedagogy supportive of linguistic and cultural pluralism (Paris, 2012). When we moved the learning setting to the family during the global pandemic, we learned that each family not only explored their cultures, but also learned to accept the differences within the family. In this paper, we discuss how redesigning tabletop games (i.e., games with boards, cards or other physical objects) can help participants reposition generational differences, practices, and ideas as resources for their social learning (Ladson-Billings, 1995) as a family, sustaining their varying interests and perspectives. In what follows we introduce the perspectives that we drew on in conceptualising and enacting this work and discuss findings that contribute to advancing our understanding of culturally sustaining learning in diverse learning contexts.

Perspectives on Tabletop Games and Culturally Sustaining Learning

A tabletop game is a unique design form that deeply engages users as part of its underlying structure to enable game play. Players must make sense of the rules and create mental models of possible moves and dynamics in relation to game elements and other players in the social space of play (Pearce, 2006). Simultaneously, players become part of the game system, where their personalities and ways of doing (i.e., negotiating the play) come into play (Gatti Junior et al., 2020). Playing tabletop games, players have different experiences each time they play and with different playmates or opponents. Crist et al. (2016) similarly pointed out how tabletop games provide an intimate space of play that can bring people from different ethnic and social and economic backgrounds in contact and offer them new opportunities for engagement and relationship building. We discuss how the literature on tabletop games and their educational significance demonstrates the potential for culturally sustaining learning.

Sustaining and evolving tabletop games

Tabletop games are cultural artifacts that reflect values, beliefs, and interests in their system of rules and aesthetic elements. The ancient game of *Senet*, for example, reflects the value of divination, while players have "a metaphoric race against fate" (Flanagan, 2009, p. 68). The Chinese game *Go* (i.e., its system of layout and

unfolding situations) is influenced by cultural norms and beliefs and may be connected to some divinatory practices of using black and white stones for predicting mystical events (Flanagan, 2009). Among other examples that Flanagan (2009) shared, many Japanese games reflected contemporary interests such as educating about the world through travel and contemporary poetry (e.g., *100 Poems by 100 Poets*). From another viewpoint, Crist et al. (2016) described how board games were used to facilitate interactions "across kinship, ethnic and socio-economic boundaries" (p.181), such as for traders to develop amity in Africa and South Asia allowing "individuals from distant regions and cultural backgrounds to interact across real and imagined boundaries" (p. 191). They argued that board games were historically used as "social lubricants" across cultures and were adopted into varying societies by being decorated and reimagined appropriately to their cultures (Crist et al., 2016).

The *Landlord's Game*, created by the activist Elizabeth Magie in the 1900s, is a notable example of how board games reflect their context and convey designers' interests. This game intended to teach the economic consequences of the rent system prevalent at the time, which perpetuated a vicious cycle of enriching the property owners, and to promote the idea of an alternative tax system (i.e., "Single Tax" theory by Henry George (1879), an anti-monopoly economist). Magie's *Landlord's Game* was about an even market competition and the creation of a just society (i.e., against monopoly). Ironically, the game evolved into the board game *Monopoly* by Parker Brothers, which gained enormous success without acknowledging Magie's contribution (Flanagan, 2009). These examples highlight that tabletop games were designed to express and record values and ideas (modeling, altering, or proposing the rules of the society), used to mediate activities (social interactions, disseminate new ideas), and redesigned and evolved to reflect different (sometimes opposing) values and purposes.

The above examples indicate that some aspects of the games communicated across different contexts. Danilovic and de Voogt (2021) saw a formal system, i.e., "coherent (logical) structure of the game" (p. 509), as the reason for these games' dispersion across time and space. The coherent structure is somehow noticed and understood regardless of the players' cultures and provides a common ground to understand the game, participate in play, and interact with the game and other players. When games enter the new context of people with different backgrounds and ideas, players imagine new narratives and rules, and give new meanings to the events and interactions through play (Brown & Waterhouse-Watson, 2016). Scholars indeed saw that game play or similarly playful actions create a space that encourages players or actors to seek alternative interactions, ideas and norms, and imagine and negotiate new possibilities. Such space might be called a liminal space (Crist et al., 2016), Third space (Gutierrez, 2008), or boundary space (Akkerman & Bakker, 2011). The spread of tabletop games across cultures and regions also demonstrates how such boundary-crossing spaces facilitated the redesigns of games, i.e., creating new possibilities. de Voogt et al. (2013) similarly observed that "crossing socio-cultural boundaries has positive effects on rates of innovation, likely as people reinterpret (i.e., translate) rules or other parts of the game from their own local and cultural perspectives" (p. 1728) from their historical review.

Culturally sustaining learning and tabletop game redesign

The scholars of culturally sustaining pedagogy view learning as critically enriching strengths rather than replacing deficits, moving away from aligning with linguistic and cultural hegemony (Lee & Walsh, 2017). In our view, culturally sustaining learning repositions diverse learners as catalysts for interdependence and their cultural and linguistic differences as the basis for understanding the world and creating novel and pluralistic outcomes (S. J. Lee & Walsh, 2017; Paris, 2012; Paris & Alim, 2014; Joyce, 2017). Culturally sustaining learning should involve critical consciousness to identify social structures and positions as well as biases and oppressive constructions against non-dominant groups, and efforts to decenter from the norms of the dominant group (Ladson-Billings, 1995; Paris & Alim, 2014). Repositioning and genuine transformation of positions happen through discursive practices and deepening social relations (Davies & Harre, 1990; Joyce, 2017; Ladson-Billings, 1995).

Our argument for tabletop game redesign as culturally sustaining learning is supported by the cultural-historical significance of tabletop games and how their evolution reflects pluralist outcomes as described above. The evolution of tabletop games through redesigns has happened in local gameplays as the games disperse in new contexts and encounter different cultures and languages (de Voogt et al., 2013; Crist, 2019). While designing games has been shown to engage learners in inventing alternative ways of knowing (Civil, 2002), we believe that *re*designing activities could facilitate enriching and repositioning linguistic and cultural diversity. In a study of students' redesigning the game *Inversé* for mathematics learning, a grade 4 new immigrant from China used his mathematical and cultural knowledge: using gestures and drawings, he demonstrated his reimagined play by adopting rules from the Chinese game, *Go* (*Weiqi*) (Kim & Bastani, 2021). The study showed that culturally-relevant games have the potential to bring historical and cultural contexts to disciplinary thinking (e.g., mathematics; Bayeck, 2018; Bastani & Kim, 2022) while helping learners position themselves as confident contributors and their culture and language as important resources in the learning settings.

Game play and design could encourage novel interactions that challenge established relational patterns. Crist et al. (2016) pointed to a "continuum between order and disorder in games" (p. 180) giving rise to new models and interaction paradigms. Through this interplay, games could encourage a liminal space "whereby people can step outside normal social practices and bend familiar cultural elements and societal structure." Such playful states do not mean to maintain the status quo and can introduce new unconventional possibilities, influencing dominant social and political practices and roles (Crist et al., 2016). They could persuade an borderland where limits of inclusion and exclusion can be revisited. This speaks to shifts in power positions that could encourage non-dominant voices (Davies & Harré, 1990). We see cultures as meanings and practices of the families and other social groups that individuals may belong to, inherited or (being) formed individually and collectively. Individuals' interests and views informed by their background and current practices could impact their ways of contributing to collective practices. When taking new positions becomes possible, individuals bring their cultural and social resources from their practices and views in their different life spaces (McVee et al., 2021). We argue that such negotiated spaces and positions truly bring out culturally sustaining learning opportunities.

Research Design

We conducted this study remotely via video communications due to the global pandemic. We recruited six families through digital flyers, inviting them to participate as a family unit with at least one adult and one child. The study focused on the four families who completed most of the activities. We provided general guidelines for the game redesign process and held online video meetings with each family to explore their approach to the project, the game they chose to redesign, their ideas for designing their own game, and their experience of collaborative game redesign as a family. The researchers also brainstormed with families on possible changes to their selected games. The meetings were recorded with permission, and families shared their work through written descriptions, visual data (photos and/or videos) from their in-progress designs and final artifacts, and/or blog posts. The final games were exchanged among the families, to play another family's redesigned game and provide feedback.

The initial aim of the study was to investigate how families as collectives could use their cultural and linguistic resources in their game resign project. However, the researchers observed that individuals' differences within the family had a significant impact on the design processes. Therefore, the analysis shifted from a macro-level focus on the family as a collective to a micro-level focus on how family members' diverse backgrounds and perspectives influenced the development of ideas and artifacts. The researchers paid attention to how each family member's unique interests and viewpoints contributed to the game redesign process.

Analysis: Tabletop game redesign as culturally sustaining learning

The shift in research focus led us to explore the following: 1) how the family members engage in social learning through redesigning tabletop games (i.e., games with boards, cards or other objects), and 2) how they reposition generational differences, practices, and ideas as resources for their collective design and learning process.

Relational positions and social learning. Game play and design could encourage shifts in relational positions through discursive and somatic exchanges. Repositioning is intertwined with perspective taking/making, leading to a third problem space, whereby new collective possibilities could emerge (Davies & Harré, 1990; McVee et al., 2021). Game redesign builds on conscious game play, such as noticing others' strategies and interpreting the emergent situations in the game. The explicit requirement of evaluating an existing game structure could change the individuals' position from players to critics of games and the assumptions that back their system and narrative. We had access to family members' reflective accounts through online conversations. We looked for any indications of developing a critical stance towards the norms, expectations, and ways of being, implied by dominant voices in the tools and media of our shared activities.

Shared projects within families and other social groups often involve intergenerational collaboration. Critiquing familiar structures (i.e., games we play) and inventing new participation structures (i.e., redesigned game play) by families could invite family members' different forms of contribution stemmed from their various interests, backgrounds and different roles in and outside the family, i.e., bringing in their various cultural resources in shared activities. In analysing the interviews and artifacts, we also attended to how they evaluated the different aspects of games as the media familiar to both kids and adults. How they could make explicit their understandings and ideas in relation to other family members and how they were able to encourage new relationships and collective possibilities. Put differently, we examined how they might have actively engaged in refiguring their positionings within the family, and how they crossed established boundaries, developing self and mutual understandings, and engaging in creating hybrid spaces where "ingredients from different contexts are combined into something new and unfamiliar" (Akkerman & Bakker, 2011; p. 148).

In our analysis, we reviewed our notes and online meetings' recordings and identified how the participants worked as families and how they formed redesign ideas. We traced the evolution of family discussions

and design practices (Barab et al., 2001). We identified the critical episodes of their redesign reflected in our online conversations and the designed artifacts they shared with us. These episodes showed development points, such as how they chose the game to be redesigned, the evolution of family members' participation (e.g., who takes the lead, etc.), and how they determined new objectives and strategies for their redesign. We also explored the playtesting opportunities within the family and the feedback they received from other families after exchanging their games. This led to identifying some overall themes and patterns in families' game redesign practices, including families' sharing critical perspectives on existing games, expressing their interests and attending to one another's perspectives, and connecting the game content with their interests and topics in school and life. We also looked for emergent patterns, such as how the family members' voices reflected in our online conversations and the redesigned games, and the changes in family members' relational positions. The analysis involved examining families' artifacts (i.e., their games, play-recordings, photos, blogs, feedback notes) to understand what connections they were making with their disciplinary and cultural practices and family members' interests.

Tabletop Game Redesign by Families

Each family had an adult contact person, but who led the game design differed among them. The families' unique circumstances influenced their approach to the project, such as the age of their children. Some families used a child's interest to guide their game design, while others had an adult member who encouraged the diverse interests of their family members or sought to create a disciplinary learning experience. During our meetings with families, both adults and children identified the shortcomings of existing games, such as the lack of cooperation among players and the use of stereotypical gender roles. They also compared their cultural gaming practices to those that they played in their home country (if they were immigrants) and reflected how intergenerational relationships and social occasions impacted the games they played. Despite this, we noticed that the redesigned games and rules did not necessarily display overt cultural markers from the participants. Instead, culture was manifested in the decision-making process itself, which influenced the games and game design as a practice. Through this process, the families were able to explore and understand their own cultures and what mattered to their family members as they negotiated their views and interests through play and design. Below is a brief description of each family and their game redesign project. Pseudonyms are used for all names.

Family 1 (with a Chinese background) decided to redesign *The Game of Life* board game. The family had four members: Hailey (mother), Patrick (father), Alia (in 5th grade), and Eira (in 7th grade). They chose to redesign the game to make it more relevant to their current context and future expectations by altering the game's theme and introducing new choices, such as career options. Family 2 (Caucasian) chose to redesign the card game *Love Letter*. The family included four members: Katie (mother), Josh (father), Ellie (in 5th grade), and Aiden (in 1st grade). Ellie took the lead in redesigning *Love Letter* to align it with her current favourite book series, *Warriors* by Erin Hunter. Family 3 (with Chinese background) redesigned the board game *Mice & Mystics*. The family comprised three members: Kenny (father), Erika (mother), and Eden (in 1st grade). Their design goal was to integrate coding and logical thinking into the board game. Family 4 (Mexican immigrants) redesigned the board game *Survive*. The family included Lisa (mother), Diego (father), and Elena (in 7th grade). Their goal was to create a cooperative version of the originally competitive game *Survive*.

Positioning children's thoughts as resources for evaluating existing structures

Families considered various elements of a game before selecting one to redesign and while assessing what aspects they will want to change. During this process, families reflected on their goals for creating a new game and took critical perspectives towards the cultural norms, gender roles, and hegemonic ideas that shaped the original games' narratives and dynamics. Family 1, who chose to redesign The *Game of Life,* expressed the most explicit cultural critique of the original name. As a family who played the game often, they believed it represented Western life choices and wanted to create a game more reflective of their Chinese cultural context. Patrick, the father said: "when you play, it is definitely a very Western culture. You go to school, you pick where you want to go school or you just get a job. But if you fill in something more traditional like my Chinese background, it could be something totally different where you can maybe, you know, maybe your parents make you go to school ((laughing)) and you have to achieve a certain mark before you can start picking another career or something like that…there's a lot of cultural influence in there" (the first interview). They also criticized the limited options in the original game and how a redesigned game could reflect a different belief system. Patrick mentioned, "the careers, ...that path can be very different... In *Game of Life*, the more kids you have the better, maybe in the new modern China, too many kids may not be good". This process of rethinking the game's narratives allowed them to exchange and expand their perspective on culture and life choices beyond their game redesign project. In subsequent interviews, they pointed to their conversations on alternative career paths, such as if education is needed to pursue a career and how education could contribute to career choices or pathways. Hailey mentioned

how Alia and Eira challenged the limited options for players to progress: "the pathway (in *The Game of Life*)… was ((you get)) married and then you have children. It was also interesting that they (kids) had noted ((this point))". They also discussed how they were going to adjust the game to include more diverse pathways: "((having)) children was one of the pathways we were going to adjust because…there's other ways to have a child" (Hailey).

Family 4 also discussed gender roles while playing the game redesigned by Family 3. Diego, the father, discussed their daughter's disappointment with the limited gender roles portrayed in the original game, *Mice & Mystics*: "She ((Elena)) wanted a different female character. There were only two female characters and at the beginning you could only choose one and she didn't like that female character". She wanted to play a female fighter, which was male in the game's option, not a healer, which was female in the game's option. "We learned that from ((her saying)), 'I want to be a fighter, I want to be a magician, I want to be something very powerful'" (Diego, Interview). In both Family 1 and 4, they used cultural background and children's ideas to critically evaluate the structures and expectations depicted in the original games.

Noticing different ideas and interests within the family

The families chose to redesign games they often played together as a family. This common goal of redesigning the game led them to explicitly evaluate and critique this familiar medium as discussed above. On the other hand, we observed that family members expressed their interests and ideas informed by their different roles in various life spaces. For example, Kenny, the father in Family 3 initially had the idea of redesigning a game representing Chinese cultural elements, using accurate historical stories and cultural aspects. As they progressed, they decided to redesign *Mice & Mystics*, the favorite game of their six-year-old son, Eden. In our interview, Eden discussed how he enjoyed playing with the game's figurines that model the characters. The parents mentioned that they found this cooperative game fun since Eden does not handle losing in competitive games well. They decided to use *Mice & Mystics* as their base game and integrate elements from other games. Kenny, who works at a tech company, and Erika, who has a background in Chemistry, wanted to create a STEM-related game. They did not think highly of trivia games labeled as STEM learning, and since Eden was interested in hands-on activities like playing with robot toys, they wanted to engage Eden in logical thinking and coding. They also saw programming as a skill he would need in the future. Kenny posited, "I think the idea of robotics…obviously at his age and skills…he can't really build a robot. But maybe this ((board game)) gives an idea of what might be possible in the future. I mean, it's very simple programming, logic and stuff, but he's gotta start somewhere, I guess."

They implemented the mechanics used in the game *Mechs vs. Minions* to replace the dice-based random moves in *Mice & Mystics* with command cards, allowing each player to program their characters' moves. They called their final game *Minions' vs Mystics* (Figure 1a). They coined the term "boardgramming" to describe their new game, and created rules that use game pieces and boards from both games. Kenney remarked on Eden's creativity, saying, "my son's never done a boardgramming kind of game, programming at all. That, uh, how he took to thinking about the logic was kind of what surprised me" (Interview).

Figure 1.
Redesigned games: (a) *Minions' vs Mystics* setup; (b) *Warriors* game cards


(a)   (b)

Family 2 decided to redesign the card game *Love Letter* because it was a favorite game of Ellie and her father Josh. The design process was led by Ellie after Katie suggested that she "re-work the cards of *Love Letter* to correspond to [her] current favourite book series, *Warriors* by Erin Hunter. This book series follows a variety of clans of feral cats" (blog post). In our conversation, they discussed how there are parallels between the renaissance courting theme of *Love Letter* and the hierarchal nature of the *Warriors* series' characters: "((In)) *Warriors* there's different ranks. There's a leader, a deputy and medicine cat or you're, um, kind of an apprentice" (Ellie, online meeting). The initial design process focused on incorporating the characters from the first arc of the series from an aesthetic perspective. Once the aesthetic choices were formalized, Ellie considered whether the card text/rules needed to be adjusted to reflect the changes to *Warriors*' characters, such as its hierarchy of "kits, apprentices, warriors, and medicine cats" (blog post). They crafted cards to play-test the game as a family (Figure 1b) to see how the game worked and to adjust the rules. The rest of the family members had not read the *Warriors*

series and found the backstory complicated. Nonetheless, supporting the redesign process and playing the redesigned game provided an opportunity for the family to learn about the literature that Ellies was invested in.

Family 1 decided to redesign *The Game of Life* board game based on their two daughters' (Alia and Eira) interest. The parents (Hailey and Patrick) and the kids went through multiple brainstorming cycles to come up with alternative life paths. Hailey found the process of choosing the careers particularly interesting: it allowed her to learn about the careers her kids knew about and discuss other careers that they were not aware of. As a result, they created the set of career cards that reflected the interests and values of the family members (Figure 2a). Some of their shared interests, such as Japanese culture were reflected in their career choices, such as Sushi Chef and Sumo Wrestler. They decided to create game boards that reflected each family member's interest, and combined them to create the final game board (Figure 2b). Haily commented, "this game sort of allowed us to really showcase things we are interested in. So, I made the space part, Eira made the Harry Potter part, Alia made the newsprint type part and Patrick made the Japanese part. It all actually reflected, very interesting, that it reflected our interest, which actually made it more personal for us to enjoy."

Figure 2.
The Redesigned *Game of Life*: (a) Career cards; (b) The game boards; (c) An action card

(a)   (b)   (c)
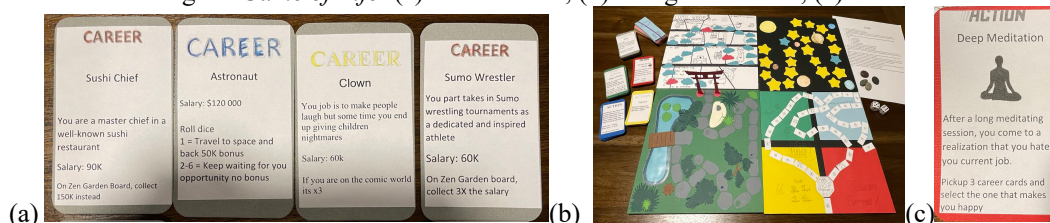
In an interview with Family 4, Diego reflected on their family game play: "we came from Mexico to Calgary. So, we started playing games because we need to spend time as a family." Their family engagement with tabletop games, particularly the insights gained from the cooperative game *Forbidden Island*, led them to consider designing a cooperative version of the competitive game *Survive* (Figure 3). Discussing their interactions during the game play and redesign project, Lisa pointed out how their daughter, Elena, surprised them with unconventional strategies in her game play, while also suggesting very unique game ideas (e.g., incorporating grandmother's interest in physical activities). However, their different ideas often made reaching an agreement challenging. Diego and Lisa's background as teachers influenced their design approach, as they remained open to new ideas and changes, recognizing the uncertain and iterative nature of design process. Elena also believed Diego's math and teaching background influenced their redesign project. Connecting the game design experience to his teaching practices, Diego asserted, "I have been thinking, what are the strategies to talk to my students and get engaged with those. It's quite the same thing. What kind of activities, what kind of rules, you need to put there that make the game engaging to participants in that sense." He also compared his experience of making an educational game to this project: "it's quite different if you interact with your family in the design." The parents also talked about how their shared interest in fantasy literature, such as Lord of the Rings, Star Wars, and some Spanish fantasy novels, inspired them in their game choice and design ideas. The game redesign experience, however, allowed them to recognize differences in how each of them see and engage with the fantasy genre. Diego mentioned that this experience allowed him to better understand his daughter's media engagement.

Figure 3.
Survive (Family 4 redesigned the rules only), source - boardgamegeek.com

Family members' shifting positions: Mutual understanding and imagining possibilities

In connection with what we discussed, we observed that the game redesign process changed the relationship between participants and games. Participants shifted from being just players to also being critics. Furthermore, family game play and redesign became intergenerational activities that allowed families to consider each other's perspectives and interests. This family project had an important impact on relational positions within the family. Parents came to see their children as experts and independent contributors, while the children could see themselves

as leaders in redesigning a familiar medium (i.e., a tabletop game) of their shared activity. Participants in all families expressed their surprise at other family members' play strategies, design ideas, and methods of contribution, revealing emergent opportunities for learning about each other and refiguring their positioning through this project. The family members' shifting of positions challenged the power dynamics established within the family as everyone was able to negotiate their views, interests, and roles. This highlights how game redesign can not only facilitate communication within the family but also motivate new configurations in family members relations, which enabled opportunities for seeking out differences and children taking a leading role (Akkerman & Bakker, 2011). In Family 3, for example, the 6-year-old child's interest in robot toys was incorporated in their game redesign. While he was not able to guide the project at his young age, his father pointed out how "Eden has started thinking about and suggesting ways we can make changes in board games we play since we did this project." This demonstrates how the family game redesign enabled Eden to take on a new role in relation to games and redefine his position in relation to his parents by offering suggestions for modifying their shared activities.

One significant aspect of the work by Family 1 was how each family member designed individual, yet interconnected boards that incorporated everyone's individual interests in the game. This approached allowed them to appreciate the different perspectives that each family member brought to the project. For example, Hailey remembered how "Alia had the idea of adding other measures of success in life like happiness or experience." They explained that while their boards had similar configuration for player moves, each had a unique theme. The career cards were designed by specific family members to be more advantageous to players moving on the related thematic board, such as the Wizard career card being more advantageous on the Harry Potter board. They also explored how action and chance cards could be similar but also different for each board. Throughout the project, everyone made an effort to attend to each other's viewpoints and figure out what each family member valued in creating their board: "Even though we each individually created our boards, I think it was interesting because each of us had a role to guide one another... to have it all together" (Hailey).

Discussion and Conclusions

This study investigated tabletop games as cultural artifacts that convey diverse beliefs and ideas through their systems (Flanagan, 2009). Tabletop games are open to different strategies, fostering diverse forms of engagement (Pearce, 2006) and allowing players to interpret the game situation from their unique perspectives while considering others'. These games often provide familiar and enjoyable spaces for families to interact, as they are suitable for both adults and children. Through analyzing data from four families who redesigned tabletop games based on their shared and individual interests, we explored how such an approach can enable families to invent alternative ways of connecting across intergenerational differences, and disciplinary and cultural practices. Although they did not explicitly explore their cultural or linguistic practices, they expressed what mattered to their family members, both individually and collectively. In all four families, the children's interests, perspectives, and prior engagement with media, including games, influenced the game redesign process. Working with these families, we learned that each family could explore their unique culture and learn to accept and appreciate differences within the family. Through this process, families were able to reposition generational differences, practices, and ideas as resources for their social learning, sustaining their diverse interests and perspectives (Ladson-Billings, 1995). By examining family settings, this study highlighted the multifaceted aspects of culture and language in culturally-sustaining learning. Our findings have significant implications for educational spaces, particularly in urban schools catering to culturally and linguistically diverse students.

Critical consciousness, interdependence and relational positions. The game redesign practices by families included game play and exploring games' structure and narrative. Game redesign provided opportunities for the families to explore and utilize their family culture as a resource for evaluating the underlying ideas, values, and beliefs expressed by the systems of a game. Family members could also make their individual views on the game explicit, and engage children and parents in new relationship configurations. Considering how children's culture, including interests and previous engagements with different forms of media, can influence a child' critical perspectives on games, new ideas, and their relational positions, a similar approach can be extremely valuable in engaging children in the classroom in challenging power dynamics and positioning themselves as leaders of idea development and change making. We believe that learners in educational spaces would be able to recognise the value of diverse cultural perspectives and appreciate the interdependence that accompanies such recognition.

Commonalities, differences and pluralistic outcomes. The families selected games to redesign based on their shared experiences of playing them. Family members' collective goal was to create a more engaging and relevant game for their family. Our findings illustrate how this approach enable us to we pursue commonalities, differences, and pluralistic outcomes, which are crucial for promoting culturally-sustaining learning in educational spaces. Redesigning games that learners play together can facilitate the emergence of shared design language and mutual understanding. By negotiating ideas within this structure, learners from various backgrounds can also

express and apply their distinct ideas, goals, and perspectives stemming from their multiple roles, such as being a student, child, cultural representative, game player, and immigrant (Davies & Harré, 1990).

Game design facilitated family members to cross boundaries between their various life spaces. We propose that learners in diverse contexts can undertake similar work: they can establish links between the game worlds and their own, characterized by inherent multiplicity, foster individual and shared understandings, and imagine new possibilities (Akkerman & Bakker, 2011). We believe that the game redesign process can also facilitate intergenerational meaning-making, as demonstrated in our findings, between teachers and students, which is often a formidable task for educators in the classroom.

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