

WORLDS IN THE MAKING: WORLD BUILDING, HOPE, AND COLLABORATIVE UNCERTAINTY

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*We have indeed always been interested in the future.
Where are we going? What will be awaiting us when we arrive?
Notice the plural pronoun: we. You and I.*

– Michael Pinsky

The study discussed herein began on the top floor of an old, multi-level school building, in a large classroom with tables pushed towards the centre of the room, science fiction books from the study strewn about the room and lining the walls. The participants were students in a split-grade, secondary English class, in an urban alternative school designed to serve students who had left the regular school system for myriad reasons: homelessness and housing precarity, mental health challenges, bullying, incarceration, family crises, and other challenges. Many students attended school infrequently—often balancing healthcare, family care and employment. For many, consistent attendance regardless of credit accumulation was a celebrated accomplishment. The participating teacher and I had been in conversation for over a year prior to the study, collaboratively planning a two-part unit designed to facilitate students' exploration of science fiction (hereafter SF) and speculative storytelling modes, with the goal of giving students a space to use those storytelling approaches to collaboratively imagine the future of Toronto. Given the context, we feared that the world building project we planned would be too demanding for our students, and that the responsibility of collective storytelling would prove too inflexible for students to access amidst the turbulence of their daily lives. However, on the day the first collaboration meeting was scheduled to lay the foundation for the fictional future the class would imagine and build together, two long tables surrounded by chairs necessarily became four, and students who arrived late had to pull in extra seating. While this was not a study about alternative schools, I begin with this context to

emphasize these students' profound yearning for the future, and their desire to have their voices heard, even amidst circumstances which often kept them from school. Further, throughout our first collaboration meeting, and across discussions and interviews, students consistently sought, not to explore a future that is a problematic reiteration of the present, but to envision something different and hopeful in its imagined possibility.

In an era where the future is increasingly in tension with the present given the sheer speed of change, the future is fundamentally a problem of curriculum, more so than ever before. While Hannah Arendt (2006) asserted that one of the roles of school is to mediate between the public (society) and the private (home) realms and, in so doing, introduce students to the world as-it-is, another component of Arendt's vision is the importance of safeguarding natality; the youthful impulse to destroy the world, and build anew without imposition by the adult world. However, schools as inherently regressive institutions seldom create space for the unexpected and unpredictable potential of youth. Instead, curriculum is too often rooted in neoliberal and capitalist narratives of mastery and preparedness. Students are taught that job prospects are more important than addressing issues like climate change meaningfully, and that individual survival, often at the expense of those already marginalized, is to be prioritized more highly than thinking through questions about what it might look like to live ethically with others.

In an increasingly polarized age wrought by economic inequity, climate injustice, and political alienation, future-oriented pedagogies and curricula must open possibilities for new questions and discourses. In this paper, I explore the following questions, all of which must be addressed in order to teach powerfully towards unknown futures: How can youth feel empowered in the present, while still acknowledging the pervasive existence of inevitable uncertainty? In contexts where people are turning away from their communities and prioritizing individual prosperity, how can we instead turn towards each other when imagining and working towards possible futures? How can we imagine futures together? What is the responsibility of schools to build future-oriented communities, in which children and youth learn to live with each other, seek out hope, and grapple with uncertainty? Prompted by Peter Appelbaum's (2019) assertion that the "present is a history of possible futures" (p. 5), how can we work towards developing curricula that makes space for youth to boldly imagine future possibility and, in so doing, work towards present change?

This paper considers these questions through an exploration of one example of a collaborative world building project that mobilized speculative and science fictional storytelling tools and explores the potential of telling stories together as one way to find hope in futures that are fundamentally different from the present. The world building project described in this paper is also positioned as one way to take on the responsibility of making space for radical and dynamic future imaginaries through

curriculum, where student voices and perspectives are at the centre of future-oriented learning. As such, I will also examine the importance of students having a space within places of learning to reimagine the world instead of reinforcing it as-it-is, and to push against a present that is structurally and systemically inequitable and broken. Creating intentional space for this work allows students to work towards something new and different, which can help young people use their collective voice to imagine change together.

Science Fiction as Radical Alterity

The primary problem underlying this study is the limited way that the future is engaged with in contemporary education. Common approaches are too often mastery-oriented and leave students with the impression that they can have complete control over the future, which poorly equips them to face inevitable future uncertainty. Problematically, in spite of the widely acknowledged shifting social and individual experience of time in contemporary society (Sharma, 2014; Wajcman, 2015) brought on by the speed of change exacerbated by technological innovation (Kurzweil, 2005; Csicsery-Ronay Jr., 2008; Sullivan, 1999; Thomas, 2013) and the neoliberal project of globalization (Bauman, 2007; Todd, 2009), the future is seldom taught towards directly in schools except through narratives of control.

The Ontario Curriculum for English (2007), the curriculum informing this study, exemplifies the control-oriented treatment of the future in curricular planning that I problematize in this work. Specifically, instead of acknowledging elements of unknowability present in our relationship with the future, the curriculum emphasizes 21st-century skills and implicitly promotes capacities to solve the problem/s of the future, geared towards anticipated future job markets (Ontario Ministry of Education, 2007, p. 110). While 21st-century skills are an important part of contemporary education, they are too often mobilized to ensure students are competitive in global markets (Geist, 2016; Kay, 2009; Kivunja, 2014, 2015). Critical thinking is framed as an apolitical exercise in rationality aimed at preparing students to solve future problems (Barnet & Bedau, 2014; Baron & Sternberg, 1987; Lau, 2011; Moore & Parker, 2012), as if the future is somehow conquerable from the present.

In the curriculum, the terms 'critical literacy' and 'critical thinking' are used to encompass concepts such as world citizenship, anti-discrimination, deeper understandings of the world more broadly, and students' ability to be active citizens. However, these ideas are positioned under the umbrella of rational criticality, rendering them complicit in attempts to prepare defensively for uncertain futures and anticipatorily problem solve the most pressing problems facing society in an apolitical manner. This sanitizes and oversimplifies the opportunity that literature presents to engage students democratically and politically, in answering various calls to action, and conceptualizing their responsibility to myriad potential, and preferred futures in

nuanced and complex ways. As Anita Rubin's (2012) research on the overwhelming impact that negative future images have on teachers and students reveals, there is a desperate need for work that purposefully engages educational communities in dynamic, multiple, pluralistic conceptions of the future that can help students and teachers alike process potential disaster, imagine alternatives, envision potential actualization of preferred futures, and live meaningfully with the uncertainty and unknowability of a future that exists transiently and always just out of view.

As a result of present existential turbulence, science fictional narratives and images have become deeply ingrained in contemporary social consciousness as a way to process change. Istvan Csicsery-Ronay Jr. (2008) in *The Seven Beauties of Science Fiction* echoes this view, asserting that "[...] sf [science fiction] has come to be seen as an essential mode of imaging the horizons of possibility" (p. 1). I make a similar claim in this paper - namely that SF offers a unique entry point into thinking about the present moment and envisioning myriad possible futures. Whether it is imagining what other galaxies might hold through stories of intergalactic travel, exploring how changing the way we think about gender, race, sexuality, and other aspects of identity could impact future societies, or considering the effects that scientific discoveries or ecological decisions could have on humanity, SF can offer students an opportunity to think differently about contemporary issues and the part they play in enacting change.

While the temporal positioning of science fictional narratives is a crucial part of the genre, more significant is how the future is treated as a "locus of radical alterity to the mundane status quo" (Freedman, 2000, p. 55). The overarching exploration that drove this research lies in the potential that SF has to help students imagine and visualize 'radical alterity' and difference, to affirm that there are alternatives beyond prevalent societal narratives of the future, and to reinforce that youth are an integral part of envisioning plural, complex, and varied futures in contrast with the present, which is too often normalized and viewed as immutable.

SF in this work is defined not by its tropes, but by its position as a genre which has long been a site for articulating and imagining difference. As Gary K. Wolfe (2016) in *How Great Science Fiction Works* asserts, "[...] science fiction can be not only great literature but a significant and important body of speculative thought on issues that are crucial to our society and that are direct expressions of our hopes, fears, and dreams" (Wolfe, 2016, p. 2). Although the definitional parameters of the genre are constantly debated across SF scholarship (Rieder, 2017, p. 15), for the purposes of the world building project and imagining what SF offers educational and curricular change, I am interested less in distinctions between SF and speculative or fantastical generic distinctions, and more so in what SF and speculative storytelling can *do* for youth and teachers alike negotiating their own relationships with and understanding of the future. C.W. Sullivan III (1999) echoes this view in *Young Adult Science Fiction*, and further emphasizes the potential SF has to change the way we think about the

world, stating that the genre's ability "lies in the extrapolative nature of the genre itself," claiming that no genre is "so free to imagine the possibilities of other worlds, societies, and times as science fiction" (p. 1). The world building project explored here focuses on this potential, and draws from the claim P.L. Thomas (2013) makes in *Science Fiction and Speculative Fiction: Challenging Genres* that a "[...] central quality of SF and speculative fiction (fantasy and historical fiction as well) that is significant is that the creation of some form of another world helps frame for the readers this world" (p. 193). The use of science fictional storytelling here abandons shallow, predictive capacities of the genre (Sardar & Sweeney, 2016), and moves towards reinvigorating hope and meaning in the present. Following Donna Haraway's (2016) call in *Staying with the Trouble: Making Kin in the Chthulucene* to 'stay with the trouble' in the present, this project explores science fictional and speculative storytelling as an opportunity to resist escapism and take responsibility in the present to build a more equitable future together.

In spite of the promise of SF as a subversive genre which can help us imagine otherwise across race (Hopkinson in Rutledge, 1999, p. 593; Lavender III, 2011), gender and sexuality (Pearson, Hollinger & Gordon, 2008), and other intersections, identities, and challenges, work at the K-12 level on mobilizing SF and speculative fiction remains sparse, particularly in secondary literature classrooms, and even fewer texts address the future in educational contexts. Most work on SF in secondary education is outdated (Allen, 1975; Calkins & McGhan, 1972; Elkins & Suvin, 1979; Williamson, 1980), with rare contemporary scholarship on SF and speculative pedagogies largely focused on tertiary education (Hellekson, Jacobsen, Sharp & Yasek, 2010; Sawyer & Wright, 2011). One outlier is Sarah E. Truman's (2019) "SF! Haraway's Situated Feminisms and Speculative Fabulations in English Class," in which she explores writing praxis and secondary students' individual imagined future cityscapes. Texts such as this, which emphasize the value young people find in using speculative storytelling to reshape their relationship with the world, signal the profound need for such research in education. Similarly, little exists on how SF and speculative fictions as a mode of thinking can shape pedagogy. Another exception is John A. Weaver, Karen Anijar and Toby Daspit's (2004) collection *Science Fiction Curriculum, Cyborg Teachers, and Youth Culture(s)*, which reimagines education through science fictional modes of thinking. The authors introduce the collection with the following assertion:

Science fiction can and does provide a medium through which the future of education is visualized, through which educators and students can contemplate and reflect on the consequences of their actions in this world. Science fiction provides a genre, a medium through which the future can be speculatively visualized in the present. (p. 1)

These scholars position science fiction as an opportunity to think of education otherwise, thereby transcending the confines of contemporary educational trends and praxis, viewing the future as open to possibility, and conceptualizing curriculum *as* a kind of science fiction, with interplay between the present and the future acting within educational planning. It is at the intersection of science fictional storytelling and speculative pedagogical possibility, that this world building project was conceived.

World Building and Radical Democracy

This project centered around the concept of world building: a science fictional genre convention and technique that SF writers use to design the futures in which their stories take place (Csicsery-Ronay Jr., 2008; Duggan, Lindley & McNichol, 2017; Vervoort, Bendor, Kelliher, Strik & Helfgott, 2015). World building, informed by structural characteristics of SF, encompasses the following story elements in this project:

- Plot/Novum, or the storyline the text follows based on the novum, which is the ‘new thing’ that acts as the primary differentiating factor between the future society envisioned and our own temporal present, and how it impacts their society;
- Setting, which encompasses both where the story takes place and temporal distance from the present;
- Culture/Community, or the sociological behaviours of the characters and broader society represented in the text;
- Affect, or the general feeling students-authors want the reader to feel when they engage with the SF future they have created.

These working categories were informed by texts on writing SF (Barr, 2003; Claeson, 1977; Delany, 2005; Gillett, 2001; Gunn, 2000; Le Guin, 2014; Hopkinson in Rutledge, 1999; Shippey, 2016; Tuttle, 2005; Wolfe, 2016). The concept of world building is positioned here as a form of narrative imagination guided by the extrapolative writing process, drawing from how SF authors often gain inspiration from the present in order to construct their visions of the future. Instead of focusing solely on what SF authors do when they construct science fictional futures as an analytical tool, this concept was used to clarify the way SF can meaningfully engage students in the chaotic present moment as they work through the world building process themselves.

Given the emphasis on collaborative world building and the integration of students’ differing perspectives on future possibility, the world building project was envisioned as an important site of contestation and dissensus in the spirit of radical democracy, as opposed to liberal democratic frameworks. The goal of radically democratic engagement moves away from achieving consensus, and towards widespread participation in the dynamic process of democracy; a continually unstable and ever-changing political state characterized by the ceaseless disruption of pre-existing systems, structures, and views through claims for equality (Biesta, 2011; Rancière,

1998; Thayer-Bacon, 2001). Considering this, the goal of education in the spirit of radical democracy becomes not about conscious social reproduction of pre-existing social and political structures (Guttmann, 1993), or teaching students the entry conditions for democratic participation which Chantal Mouffe (1993) critiques, but to facilitate opportunities for moments of contestation to emerge, and thus change the pre-existing structures of engagement both in and beyond traditional educational spaces.

As Sharon Todd (2009) argues in *Toward an Imperfect Education: Facing Humanity, Rethinking Cosmopolitanism*, liberal democracy in contrast is a dialogic, consensus-driven model which, in classrooms, at best results in shallow forms of political engagement, and at worst involves students having no outlet through which to explore their political views and causes them to lash out violently against those who are different from them as a result. In fact, Todd maintains that democracy “requires opposition, dissent, and disagreement for its survival,” and must involve political, agonistic dialogue which does not succumb to shallow consensus (Todd, 2009, p. 100). For Todd, and similarly for this study, the promise of (radical) democracy lies in giving students an opportunity to explore the world on their own terms and engage meaningfully with others even when those engagements are characterized by disagreement and messiness. In a social constructivist epistemological framework, where knowledge creation is a social process (Thayer-Bacon, 2001, pp. 5-6), the most meaningful moments of learning during the world building project therefore occurred collectively between students in every part of the planning and writing process as they built an imagined, but often contested, fictional future which could only be fully envisioned together.

The World Building Project: Toronto 2049

Collaborative world building, or collaborative storymaking (King, 2007), is a process where students work together to construct a broader story collectively, creating a frame within which individual contributions can occur. A significant example of this process is Trent Hergenrader’s (2017) “Steampunk Rochester: An interdisciplinary, location-based, collaborative world building project.” Hergenrader describes his collaborative world building unit as having two phases, and provides a general overview of the processes he used:

[...] the first is the writing of a metanarrative or an overarching story about the fictional world; the second is the creation of a catalog of wiki entries that describe the people, places, and things that populate this world. When writing the metanarrative, the students have to work out in detail how different aspects of the world operate and interrelate, including different aspects of governance, economics, social relations, and cultural values. When the group reaches a general consensus about the broad narrative that describes the world, each student then begins writing their own unique wiki entries for specific people, places, and things. (2017, pp. 135-136)

This study challenged Hergenrader's conception of consensus through emphasizing democratic practices that necessitated that students grapple with tensions and disagreements, rather than work towards shallow consensus as the ultimate goal. Student-led planning sessions were framed as sites of negotiation, contestation, and challenge concerning students' visions of the future as they worked through the framing details of the 'world' they built together, such as temporal distance from the present, and major events that shape the future history envisioned. Further, unlike Hergenrader's approach, these details were not locked in place. As the narrative changed, students continued to expand upon and work through future visions. This kind of collaborative world building provided space for discussion regarding how people inhabit the world differently. Individual experiences impact particular understandings of reality and how worldviews are constructed (Hergenrader, 2017, pp. 136-137), as students worked through often irreconcilable visions of what the future might entail.

After a month of genre-based exploration and engagement with SF texts, students used aspects of science fictional storytelling and interactive digital storytelling tools, such as wikis and digital mapping (Hergenrader, 2017; 2019), to explore future possibility. The world building project involved students discussing their imagined future of Toronto in the form of four weekly 'collaboration meetings.' Between the meetings, students explored topics of interest to them, and subsequently 'filled in the world' in the form of wiki entries, informed by the general parameters of the fictional future and their own unique visions for the future. During the first collaboration meeting, students identified 'big ideas' that would shape the narrative landscape and chose to imagine Toronto in 2049. Students considered what major events or developments may have occurred between the present and 2049 to shape their explorations of the future, which led to the following imaginative possibilities:

1. Increased flooding and extreme weather as a result of climate change, thereby impacting resources, ways of life, and the influx of climate refugees (due to not meeting the 2030 UN 'deadline,' for which a report had just been published);
2. A coalition of smaller, community-based political parties/representatives resulting from loss of faith in a single party/leader;
3. Mass technological innovation approaching singularity (the point when intelligent technology can improve upon itself without the need for human intervention), making artificial intelligence, space exploration, and virtual reality more prominent.

In the following two classes, students built upon these ideas; they felt they needed a stronger foundation before doing independent research and developing the 'world.' This process involved students deciding what 'big ideas' and areas of concern form a society and working through the challenge of establishing a broader foundation for their imaginative consideration.

Finding Hope Amidst Uncertain Futures

For the remainder of this paper, I focus specifically on how students worked through the processes of making space for hope as an important, and undervalued, curricular outcome. I use the term ‘hope’ here as bell hooks does—as a belief in the potential to address injustice even in the face of resounding challenge and as part of a community (hooks, 2003, p. xv)—and, relatedly, as something which is socially mediated and manifests differently in different people (Webb, 2013). Hope, in this way, featured prominently in the meetings—what did students *hope* would happen? What could they allow themselves to imagine? While in the initial meeting, different dystopian visions of the future were considered—complete destruction due to the effects of climate change, scenarios of nuclear war, extreme government control—students eventually decided collectively to navigate the gray area between utopian and dystopian visions of the future. As a result, the ways that hopes and fears about the future manifested across the group and throughout the project remained varied and pushed the limits of the diverse perspectives the Toronto 2049 project had to contain.

The space students made for hope is exemplified most prominently through how they addressed the problem of economy. Students decided early on that the economic structure of the future would impact everything else within their narrative landscape, and thus had to be one of the first things discussed. Many of the participants expressed a desire to imagine a future beyond capitalism and worked collectively to imagine not just a failed economic system, but one which thrived in some other way. This suggestion was notably met with some confusion and disagreement, including pressure to explain how resources would be distributed, why and how people would contribute meaningfully to society, and questioning of what would lead to the downfall of capitalism.

In subsequent weeks, the students refined their vision of a future economic system that moves beyond capitalism through technological automation leading to cost-efficient resource allocation, an emergent bartering system, and a shift in social values and consumerism in response to climate change—effectively addressing what Žižek argues is a seeming impossibility of contemporary social imagination (2000, p. 218). Students chose to write in a future where capitalism was unraveling due to an imagined depression caused by a divide between the rich and the poor so great that the 99% could no longer contribute enough to the economy to sustain it. As one student noted during a collaboration meeting: *The predatory class can't exist without someone to prey on*. For a large portion of students within the study, some of whom had experienced financial precarity and homelessness, this decision was met with the excitement of defiance, and ultimately represented a potential for hope and radical change given their particular vantage points and worldviews.

Building a World: Balancing Preferred and Probable Futures

The ‘big ideas’ and finer details of the future students imagined followed a similar trajectory—one defined by contestation and imaginative negotiation in the spirit of radical democracy, which seeks to find ways to withstand and draw from the discomfort of difference—a necessary condition of democracy (Biesta, 2011). For example, this process meant that a student, passionate about high fashion, had to find a way to write about what that industry might look like in a society which has largely moved towards sustainable options and away from consumerism. The students writing on high fashion, biodegradable textiles, art, societal norms and values, and the economy, had to discuss how each of their topics impacted one another, and how to make space for their unique perspectives within the project. This process mirrors what Lisa Tuttle (2005) in *Writing Fantasy and Science Fiction* asserts is a key aspect of world building; acknowledging that a world is an ‘ecology’ of moving parts, which must holistically come together in students’ complex future imaginaries (p. 40).

Similar processes were undertaken by students to navigate between preferred and probable futures. Students’ experiences engaging with SF texts, thinking through the genre as representations of “radical alterity” (Freedman, 2000, p. 55), alongside using science fictional storytelling as a form of present critique (Sullivan III, 1999; Thomas, 2013), gave students imaginative space to play with radical changes, while simultaneously basing their fictional projections on issues concerning them in the present. Some students explored societal issues like climate change and political governance, while others used processes of extrapolation to think through personal challenges, navigating what they imagined to be both preferred and probable possibilities based on their experiences. One student wrote about ‘internatural relationships’ between humans and robots as a metaphor for her own sexuality and the discrimination she has endured, using the fictional future to work through how relationships between robots and humans might be similarly treated in society. In writing from the perspective of someone in a relationship with a robot, this student imagined how a movement might give rise to broader acceptance of ‘internatural relationships’ in Toronto in 2049. Embracing the interplay between preferred and probable futures became an important part of the project for students. Having the conceptual freedom to imagine difference, while at the same time working through processes of extrapolation to ensure their entries were within the realm of possibility, proved to be empowering. In the exit interview, students noted that the fact that things they imagined—and which were not *entirely* bad— could actually happen was important to them.

The Importance of Surprise: Future Ideation in Schools

Semi-structured group interviews occurred at three points in the study: at the beginning of the study to explore students’ thoughts on SF, the future, and how the future is taught towards in schools; following the unit on SF to discuss how students’ understanding of SF had evolved or shifting, and their thinking regarding the

anticipated world building project in the latter half of the study; and following the world building project to consider collectively how the world building process went, and their experiences writing and imagining the future together. Interviews were recorded, transcribed, and thematically coded using NVivo, a qualitative data analysis software. Participation in group interviews was optional and was framed as an opportunity for students to share their thoughts and experiences throughout the SF and world building units. By way of conclusion, I highlight students' voices below through thematically coded excerpts which were central to further discussion within the interviews, or are otherwise representative of how other students responded to questions about SF, world building, and the future in and beyond school.

In the first group interview at the beginning of the study, I prompted the eleven students who attended to consider how the future had been discussed throughout their school experience. While many of them offered their perspectives regarding how school did not prepare them for life after graduation and how school "burns the passion out of [students]," one student noted:

I would say the problem with school is that we don't talk about the future at all. It doesn't, like, engage you to care about the future. It just kind of gives you things to do. That's all.

While students noted many things they were excited about with regards to the future, another discussion about their concerns, which are commonly left unaddressed in regular school contexts, emerged:

Student 1: *Global warming, hearing about it constantly. And the constant extinction of species. Like, I know it's a perfectly natural thing to happen, in nature, but it's just been happening a lot more rapidly.*

Student 2: *I kinda wanna see how the next generations deal with it, because, in a way, we've already started but there's still so much that can be done to change what we've done, to actually fix it -*

Student 3: *[interrupts Student 2] I'm just hoping there is a future generation -*

Student 2: *[interrupts Student 3] Trueeee [emphasis]. I just hope we don't let global warming get to the point where everything goes extinct, and we have no chance of fixing it.*

It was through this initial interview that the participating teacher and I framed the world building project as an opportunity to explore future possibility in ways which incorporated students' highly varied perspectives on present society. It was important that the teacher and I, as facilitators, moved increasingly out of leadership roles within the project to allow for students to make the project their own. Returning to the topic of the economy in the final interview, attended by eight participants, students reflected on the importance of being able to collectively tackle issues like the economy, healthcare, and equity, in terms of how the project resonated with their lived experiences:

Student 1: *I like thinking about how money might not be such a stressful thing for us anymore, which I feel like it could be possible that money might not have as much value in the future so that people could live with less of it without having to...[trails off]*

Student 2: *Without dying because they don't have enough of it to live.*

Students also found the process of making difficult decisions together to be an important part of the experience:

It makes us all, you know, talk to each other and explore different ideas and stuff. And it's good to hear, to be able to socialize and be mature, and even if you disagree to like, try to figure out a way and communicate around that. [long pause] ...there's a lot of people who are like, people I saw in the beginning and in the end, their opinion is completely different now. It's good to have that kind of openness, be open-minded to listening and getting to understand why.

Beyond students' shifting of worldviews through exposure to others' unique perspectives on both present and future society, the world building project also gave them a platform to work through their complicated feelings of hope and fear:

Student 1: *I think people often have a lot of hopelessness for the future and I don't blame them. I used to think like that all the time. I used to think like, 'oh my god, what is the point? Where are we going?' And I kind of got sick of that. I got so sick of just hearing myself talk down on everything, thinking everything was going to hell. And I just like to think that maybe, just maybe, something good is going to happen. It [this project] was a breath of fresh air, because I used to hate thinking about it [the future]. I thought everything was just going to die a horrible death, so...[trails off]*

Student 2: *Yeah, it's kind of nice to have a hopeful outlook on the future other than like, looking at the news and saying, 'hey, yeah, you're gonna die in... [long pause] 12 years.'*

Student 3: *I was so happy it wasn't a dystopia. I thought we were gonna design the saddest world ever. I'm glad that didn't happen. I'm surprised.*

Students' reflections on the world building project as an antidote for hopelessness and helplessness were significant, but their expressed surprise at the trajectory of the project as a collective endeavour is also worth noting. In conclusion, I would like to return to the questions surrounding hope and the responsibility of formal education to take responsibility for helping youth imagine dynamic futures rooted in present action with which I began this paper. The world building project described here highlights the potential of science fictional and speculative world building to bring future possibility to the pedagogical fore. In the context of hope, the initial findings of this study speak not only to the ways that science fictional storytelling and world building can be used to build community and combat fear with hope in an age of existential upheaval, but also highlight the importance of embracing opportunities for students to be surprised by their own learning, and to surprise us as educators in turn.

References

- Allen, D.L. (1975). *The Ballantine Teacher's Guide to Science Fiction*. New York: Ballantine.
- Appelbaum, P. (2019). Speculative fiction, curriculum studies, and crisis: An introduction and invitation. *Journal of the American Association for the Advancement of Curriculum Studies*, 13(2).
- Arendt, H. (2006). *Between Past and Future: Eight Exercises in Political Thought*. New York: Penguin Books.
- Barnet, S., & Bedau, H. (2014). *Current issues and enduring questions: A Guide to critical thinking and argument, with readings*. 10th ed. Boston, NY: Bedford/St. Martin's.
- Baron, J.B., & Sternberg, R.J. Eds. (1987). *Teaching thinking skills: Theory and Practice*. New York, NY: W.H. Freeman and Company.
- Barr, M.S. (2003). *Envisioning the Future: Science Fiction and the Next Millennium*. Middletown, CT: Wesleyan University Press.
- Bauman, Z. (2007). *Liquid Times: Living in an Age of Uncertainty*. Cambridge: Polity Press.
- Biesta, G. (2011). The ignorant citizen: Mouffe, Ranciere, and the subject of democratic education. *Studies in Philosophy and Education*, 30. 141-153.
<https://doi.org/10.1007/s11217-011-9220-4>
- Calkins, E., & McGhan, B. (1972). *Teaching Tomorrow: A Handbook of Science Fiction for Teachers*. Dayton, OH: Pflaum/Standard.
- Clareson, T.D. (1977). *many futures many worlds: theme and form in science fiction*. The Kent State UP.
- Csicsery-Ronay Jr., I. (2008). *The Seven Beauties of Science Fiction*. Middletown: Wesleyan University Press.
- Delany, S.R. (2005). *ABOUT WRITiNG: Seven essays, four letters, and five interviews*. Middletown, CT: Wesleyan UP.
- Duggan, J.R., Lindley, J., & McNicol, S. (2017). Near Future School: World building beyond a neoliberal present with participatory design fictions. *Futures*, 94. 15-23.
<https://doi.org/10.1016/j.futures.2017.04.001>
- Elkins, C., and Suvin, D. (1979). Reflections on teaching science fiction critically. *Science Fiction Studies* 6(3). Retrieved from <http://www.depauw.edu/sfs/backissues/19/elkinssuvin19art.htm>
- Freedman, C. (2000). *Critical Theory and Science Fiction*. Hanover: Wesleyan University Press.
- Geist, E. (2016). Robots, Programming and Coding, Oh My! *Childhood Education*, 92(4). 298-304. <https://doi.org/10.1080/00094056.2016.1208008>
- Gillett, S.L. (2001). *World-building*. Cincinnati: Writer's Digest Books.
- Gunn, J. (2000). *The science of science-fiction writing*. Lanham, MD: Scarecrow Press.
- Gutmann, A. (1993). Democracy & democratic education. *Studies in Philosophy and Education*, 12. 1-9.
- Haraway, D.J. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke UP.
- Hellekson, K., Jacobsen, C.B., Sharp, P.B., & Yasek, L. (2010). *Practicing Science Fiction: Critical Essays on Writing, Reading and Teaching the Genre*. Jefferson, NC: McFarland.
- Hergenrader, T. (2017). Steampunk Rochester: An interdisciplinary, location-based, collaborative world building project. In *Creating Writing Innovations: Breaking Boundaries in the Classroom*. Eds. Clark, M.D., Hergenrader, T., & Rein, J. London, UK: Bloomsbury. <https://doi.org/10.5040/9781474297202.ch-010>

- Hergenrader, T. (2019). *Collaborative Worldbuilding for Writers and Gamers*. London: Bloomsbury Academic.
- hooks, b. (2003). *Teaching Community: A Pedagogy of Hope*. New York: Routledge.
- Kay, K. (2009). Middle schools preparing young people for 21st century life and work. *Middle School Journal*, 41-45. <https://doi.org/10.1080/00940771.2009.11461691>
- King, N. (2007). Developing imagination, creativity, and literacy through collaborative storymaking: A way of knowing. *Harvard Educational Review*, 77(2). 204-227. <https://doi.org/10.17763/haer.77.2.0u63476x37122g67>
- Kivunja, C. (2014). Do you want your students to be job-ready with 21st century skills? Change pedagogies: A pedagogical paradigm shift from Vygotskian social constructivism to critical thinking, problem solving and Siemen's digital connectivism. *International Journal of Higher Education*, 3(3), 81-91. <https://doi.org/10.5430/ijhe.v3n3p81>
- Kivunja, C. (2015). Teaching students to learn and to work well with 21st century skills: Unpacking the career and life skills domain of the new learning paradigm. *International Journal of Higher Education*, 4(1). 1-11. <https://doi.org/10.5430/ijhe.v4n1p1>
- Kurzweil, R. (2005). *The Singularity is Near*. London: Penguin Books.
- Lau, J.Y.F. (2011). *An Introduction to critical thinking and creativity: Think more, think better*. Hoboken, NJ: John Wiley & Sons, Inc.
- Lavender III, I. (2011). *Race in American Science Fiction*. Bloomington: Indiana University Press.
- Le Guin, U. (2014). "Where do you get your ideas from?" . In *The World Split Open: Great Authors on How and Why We Write*. Ed. Raymond, J. Portland: Tin House Books.
- Moore, B.N., & Parker, R. (2012). *Critical Thinking*. 10th ed. New York, NY: McGraw-Hill.
- Mouffe, C. (1993). *The return of the political*. London, UK: Verso.
- Ontario Ministry of Education. (2007). *The Ontario Curriculum Grades 9 and 10: English*. Retrieved from <https://www.edu.gov.on.ca/eng/curriculum/secondary/english910currb.pdf>
- Ontario Ministry of Education. (2007). *The Ontario Curriculum Grades 11 and 12: English*. Retrieved from <https://www.edu.gov.on.ca/eng/curriculum/secondary/English1112currb.pdf>
- Pearson, W., Hollinger, V., & Gordon, J. (Eds.). (2008). *Queer Universes: Sexualities in Science Fiction*. Liverpool: Liverpool UP.
- Pinsky, M. (2003). *Future Present: Ethics and/as Science Fiction*. Cranbury, NJ: Rosemont Publishing & Printing Corp.
- Rancière, J. (1998). *Disagreement: Politics and Philosophy*. Minneapolis: University of Minnesota Press.
- Rieder, J. (2017). *Science Fiction and the Mass Cultural Genre System*. Middletown, CT: Wesleyan University Press.
- Rubin, A. (2012). Hidden, inconsistent, and influential: Images of the future in changing times. *Futures*, 45. S38-S44. <https://doi.org/10.1016/j.futures.2012.11.011>
- Rutledge, G.E., & Hopkinson, N. (1999). Speaking in tongues: An interview with science fiction writer Nalo Hopkinson. *African American Review*, 33(4). 589-601.
- Sawyer, A., & Wright, P. (Eds.). (2011). *Teaching Science Fiction*. London: Palgrave Macmillan.
- Sharma, S. (2014). *In the Meantime: Temporality and Cultural Politics*. Durham: Duke UP. <https://doi.org/10.1215/9780822378334>
- Shippey, T. (2016). *Hard reading: Learning from science fiction*. Liverpool, UK: Liverpool UP. <https://doi.org/10.5949/liverpool/9781781382615.001.0001>

- Sullivan III, C.W. (Ed.). (1999). *Young Adult Science Fiction*. Westport: Greenwood Press.
- Thayer-Bacon, B. (2001). Radical democratic communities always-in-the-making. *Studies in Philosophy and Education*, 20. 5-25.
- Thomas, P.L. (Ed.). (2013). *Science Fiction and Speculative Fiction: Challenging Genres*. Rotterdam: Sense Publishers. <https://doi.org/10.1007/978-94-6209-380-5>
- Todd, S. (2009). *Toward an Imperfect Education: Facing Humanity, Rethinking Cosmopolitanism*. New York: Routledge. <https://doi.org/10.4324/9781315631509>
- Truman, S.E. (2019). SF! Haraway's situated feminisms and speculative fabulations in English class. *Studies in Philosophy and Education*, 38. 31-42. <https://doi.org/10.1007/s11217-018-9632-5>.
- Tuttle, L. (2005). *Writing Fantasy and Science Fiction*. 2nd ed. London: A & C Black Publishers Ltd.
- Wajcman, J. (2015). *Pressed for Time*. Chicago: The University of Chicago Press. <https://doi.org/10.7208/chicago/9780226196503.001.0001>
- Weaver, J.A., Anijar, K., & Daspit, T. Eds. (2004). *Science Fiction Curriculum, Cyborg Teachers, and Youth Culture(s)*. New York, NY: Peter Lang.
- Webb, D. (2013). Pedagogies of hope. *Studies in Philosophy and Education*, 32. 394-414. <https://doi.org/10.1007/s11217-012-9336-1>
- Williamson, J. (Ed.). (1980). *Teaching Science Fiction: Education for Tomorrow*. Philadelphia: Owlswick Press.
- Wolfe, G.K. (2016). *How great science fiction works: Course Guidebook*. Chantilly, Virginia: The Teaching Company.
- Vervoort, J.M., Bendor, R., Kelliher, A., Strik, O., & Helfgott, A.E.R. (2015). Scenarios and the art of worldmaking. *Futures*, 74. 62-70. <https://doi.org/10.1016/j.futures.2015.08.009>
- Žižek, S. (2000). *The Ticklish Subject: The Absent Centre of Political Ontology*. London: Verso.