We are What We Eat: A Literature Review and Research Proposal for Culturally

Responsive Pedagogy within Career and Technology Education

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Introduction

This research proposal lives at the intersection of three distinct areas of specific pedagogical philosophy and teaching practices: Culturally Relevant Pedagogy (CRP), Career and Technology Education (CTE) in Alberta, Canada, and the professional development of educators' skills, knowledge, and beliefs. With a thorough look at the history, benefits, and implementation of CRP, the unique role that CTE plays within educational systems at large and specifically in Alberta, and an understanding of how educators can improve their practice, the reader will see that a gap exists in the literature; specifically in the area of implementing culturally responsive and sustaining practices into secondary school CTE classes. These educational systems will specifically benefit from the specific research proposed here: a critical, qualitative look at how non-hegemonic students' ways of being and constructing and expressing knowledge are supported in secondary level foods studies classes in Alberta. Foods studies classes are chosen specifically because of the significant intersection between culture, curriculum, and classroom practices. Further research into other CTE areas, such as cosmetology and fashion studies, as well as long-term and intentional professional learning and resources development are similarly warranted and supported by the literature.

Conversations, books, articles, and discourse surrounding what is now often referred to as CRP have existed within educational and political literature for decades. Two authors that have written extensively on the topic, and whose work is evidently seminal for the development of CRP, were Geneva Gay and Gloria Ladson-Billings.

Their work will be discussed in detail throughout this review, as their articles and books have been cited thousands of times throughout the extant literature.

To begin this discussion, it would behove both the author and reader to focus our use of the term CRP. Gay (2018) defined Culturally Responsive Teaching as "using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them" (p. 36). Including the word "pedagogy", as opposed to "teaching" as it is used in her writing implies both an educator's internalisation and externalisation of a philosophical approach to education that goes beyond instructing learners. Therefore, a working definition for our purpose requires tempering Gay's definition with an unfolding understanding of teacher beliefs, sense of self-efficacy, development of hidden curriculum, willingness to learn, unlearn, and engage with multiliteracies and diverse ways of knowing and being (Pledger, 2018; Lam, 2019; Tanase, 2022).

For the purpose of exploring CTE, and specifically foods studies instruction, this review will frame and define CRP as a holistic and philosophical approach to supporting and sustaining the physical, emotional, spiritual, and cultural health of student populations whose cultural identities are not reflected in the Euro-centric CTE curriculum in Alberta, Canada. Practising CRP in the ways explored throughout this review requires educators actively and intentionally engaging with multicultural content and multiliteracies, allowing for diverse ways of expressing understanding, supporting the creation of student agency and voice-as-power, and developing students and teachers' critical consciousness in order to disrupt the status quo (Ladson-Billings, 1995a; Lam, 2019; Nortvedt et al., 2020; Olivier & Besharah, 2014; Zeiser et al., 2018).

Career and Technology Education

In a rapidly changing world where headlines about artificial intelligence and chatbot programs fully replacing dozens of jobs in various sectors (Kiderlin, 2023; Mohamed, 2023; Mok & Zinkula, 2023), or helping students write exams and assignments in classes such as English language arts and social studies (Hristova, 2023; Nietzel, 2023) seem to emerge almost daily, it is pertinent to consider the educational content where machine learning cannot yet replace human work. Classes such as those found in CTE programs, home economics, physical education, and visual art all have physical and tactile components that still need human hands to facilitate. Even if, like those articles and many prominent voices hypothesise, artificial intelligence replaces jobs, workers, and tasks across multiple industries and systems, students will still need to feed themselves, play sports and exercise, and create art for their own or others' enjoyment and betterment. Grounded, hands-on, and experiential learning is still the domain of human work and, therefore, requires a renewed and refocused examination via pedagogical approaches that support all students, and in particular, those whose educational attainment is most vulnerable.

CTE, as a general discipline, performs different functions and interacts with students in a variety of ways that are not equal across, and sometimes even within, countries. The modern, North American discipline of CTE, and specifically home economics, has evolved throughout the history of modern schooling after the nineteenth century split between practical and theoretical schooling (Kimonen & Nevalainen, 2017). Art, poetry, philosophy, and other theoretical sciences were reserved for wealthier families, while everyone else who attended the educational system learned to serve in

labour or technical positions. Throughout and towards the end of the twentieth-century, these more technical streams were seen as a place for misbehaving students to be placed, and this led to the evolution of CTE to be seen as both educationally inferior to "traditional" streams and as a depository for troubled kids (Fitzpatrick, 2006).

In the United States, even after schools were forced to desegregate, many racially marginalised students were forced into CTE programming that was substandard and maintained, rather than disrupted, existing socio-economic systems of oppression (Estes & McCain, 2019). In other countries, such as France and Germany, secondary education programs have historically "tracked" students into either vocational or academic streams based on previous academic achievements, which can limit a student's ability to grow their own educational skills and artificially force them into careers that provide lower potentials for advancement, wages, and further education (Bernhard et al., 2012). Although many of these systems are changing, it is common across many advanced economies' educational systems to over-represent an area's minority populations as a result of both these historical functions and lower academic standards required of students who have struggled in schools where classes are focused more towards the traditional "core" work (LaForce et al., 2016).

From this brief overview, it is clear to see that there is a relationship to be discovered, and discussed, between CTE education and CRP; unfortunately, the literature is relatively devoid of such content. Some of the research focuses on the classroom-management difficulties and simultaneous rewarding aspects of highly diverse CTE classes (Rehm, 2008; Venäläinen, 2010). Other research, both discussed in this review (Fitzpatrick, 2006; U.S Department of Education, 2017; Schimpf, 2011)

and not, is written from the lens of increasing educational capacity in order to further career goals and eventually increase the wages of traditionally othered students, rather than developing curricula to support decolonisation or the various mental, cultural, or psycho-social aspects of these students' wellbeing. In fact, most research into CTE, even through resources such as the *Journal of Career and Technical Education*, *Career and Technical Education Research*, and the *Canadian Journal of Career Development*, garners results in the areas of STEM (Science, Technology, Engineering and Math), and does not reflect the myriad courses associated with many CTE programs, such as construction, cosmetology, and automotive repair, or home economics classes including fashion design or foods studies. Throughout this proposal, with specific examples from foods studies classes, these subjects will be shown to have the potential to more thoroughly engage with students' own ways of generating and navigating knowledge, exploring and expressing identities, and critically examining the historical and socio-political and economic realities of diverse cultures and communities.

Career and Technology Education in Alberta, Canada

In Alberta, CTE programming is referred to as Career and Technology Studies (CTS), and so throughout this proposal, using the term CTS will specifically refer to Alberta's educational system, whereas the term CTE will refer to other jurisdictions.

Last updated in 2009, Alberta Education discusses the program philosophy and rationale as "engag[ing] students in learning opportunities through which they discover their interest in practical and purposeful ways" (p. 1). The document references Canada's continued social, cultural, and economic changes, preparing students to meet

these changes, developing students' skills that are applicable to their daily lives, and navigating and building their own career path. Specific mention is given to students' abilities to personalise their own learning and identify and explore their own interests. Emphasis is placed on identifying and supporting the individual needs of diverse students, particularly those who are First Nations, Métis, and Inuit (FNMI) or are English or French language learners. The document mentions that teachers may use a variety of teaching and assessment strategies to "help build upon the diverse knowledge, cultures, communication styles, skills, attitudes, experiences, and learning styles of these students" (p. 7).

CTS programs are grouped into five clusters, such as Natural Resources or Health, Recreation, and Human Services, with their own courses, such as cosmetology, or foods studies. Each course may have dozens of one-credit modules that may be combined into three-, five-, or more credit-courses, sometimes individualised for students, and usually designed to form a three-year pathway at individual teachers' discretion. It is entirely possible for two teachers in the same school, teaching the same five-credit foods studies course, for example, to teach entirely different modules, and even include modules from other clusters if desired. The foods studies course itself consists of forty-six separate modules and varies from basic baking skills to advanced meat butchery, to a study of nutrition and digestion (Alberta Education, 2010). A critical look at the foods studies courses in particular, through a culturally critical lens, reveals via their French-based cooking methods and relative lack of focus on world-wide cuisine their own lack of effectiveness in achieving Alberta Education's goal of building upon diverse knowledge, cultures, and ways of knowing and being (2009). Therefore, it is up

to individual teachers to support CRP in their classes through their lessons, interactions with students, and general philosophical and pedagogical approach to education. Thorough searching and review efforts have shown relatively little research into CTE teachers' implementation of culturally responsive practices within their classrooms outside of STEM courses, and no research at all looking into Alberta's CTS teachers' roles in these efforts.

Culturally Relevant Pedagogy

Searches for CRP and its related terms yield hundreds of thousands of results spanning decades of work. However, much of the work has been built upon, and references, two specific authors have provided significantly prominent work in the field. Therefore, a discussion of CRP would be incomplete without a discussion of Geneva Gay and Gloria Ladson-Billings' scholarly contributions.

Seemingly, the modern discourse surrounding CRP began in earnest in 1988, when Gay wrote *Designing Relevant Curricula for Diverse Learners*. In her piece, she called for schools to reassess their policies and programs to better reflect the "new majority" (p. 327) of traditionally othered, poor, and minority groups in the United States into the twenty-first century. Her calls for what would blossom into a pedagogical discipline of its own included attitudinal change, respect for diversity, developing program planning skills, using multiple and culturally appropriate sources in classrooms, and implementing ethnically and culturally pluralistic content, materials, and methods. She wrote that, while the process would not be simple, easy, or quick, designing curricula for these diverse learners would benefit all students, not just those who she

recognized as identifying with the Euro-centric ideologies that permeated all educational systems of the time.

Gay's articles and books have remained oft-cited, prominent pieces cemented in the literature. She has written on the requirements for teachers to have a culturally diverse knowledge base by mastering content and instructional skills, knowing the cultural contributions and characteristics of different ethnic groups, ensuring that the hidden curriculum of a school celebrates its diverse populations, building mutual-aid-like communities of student learners, and putting effort into deciphering the "culturally encoded" (2002, p. 110) intellectual thought of diverse students, and understanding the differences in communication styles between cultures and ethnic groups. She has also identified that, since teacher beliefs influence their instructional judgement, teachers must critically analyse their own belief systems, their use of formal or informal curricula and resources, examples from students' own lives, and develop appropriate strategies for discussing difficult topics with students, colleagues, and adult learners (2010).

Another prominent author and contributor to the field of CRP is Gloria Ladson-Billings. In 1995, she wrote two prominent pieces that have also been cited thousands of times throughout the literature: *But That's Just Good Teaching! The Case for Culturally Relevant Pedagogy* (1995a), and *Towards a Theory of Culturally Relevant Pedagogy* (1995b). Intentionally distancing the term Culturally Relevant Pedagogy from previously used language of "accommodating" culture (1995b) and comparing its usage to Freirean Critical Pedagogy but with an emphasis on "collective empowerment" (1995a, p. 160), and identifying that educational success had previously been represented by students "fitting" into educational meritocracy (1995b), Ladson-Billings

discusses the specific micro, mid, and macro-level discrepancies between teachers and African American students who she intentionally viewed through a particularly strength-based lens. She asserts that in order to challenge the educationally Euro-centric status quo, racialized students who previously found academic success only at the expense of their own cultural and psychosocial wellbeing, must experience a new, culturally empowering academic success while developing and maintaining cultural competencies and critical consciousnesses (1995b).

Academic successes include literacy, numeracy, technological, social, and political skills and are developed in classrooms that she identified as battlegrounds in the civil rights era, where, like progressive-minded adults in the 1960's, students would freely and enthusiastically choose academic excellence when subject matters were meaningful to them. In order to allow students to maintain their cultural identity, Ladson-Billings called on schools to reorient lessons, planning, and spaces to prevent themselves from being alien or hostile places for students of colour. She provided the examples of teaching sweet potato pie and linking cultural food to George Washington Carver's research. To develop critical consciousness, she discussed Friere's work on critical pedagogy in Brazil, and how the same work was being done in the southern United States with African American students. She used the examples of students in less-funded districts writing "Letters to the Editor" bemoaning their out-of-date textbooks, as well as teachers providing multiple perspectives on previously Euro-centric social and historical phenomena. Underpinning her whole piece were the conceptual understandings of going beyond practices and strategies, and encouraging teachers-as-learners to continuously recreate, recycle, and share knowledge while

adjusting the philosophical and ideological underpinnings that informed their pedagogy, approach teaching with artistry, understand that the content of the curriculum is always open to critical analysis, and embrace the belief that all students can and must succeed (1995a; 1995b).

Ladson-Billings, Gay and others have continued to write on this topic, and their work will surely be reviewed for decades to come. Modern works are sure to point out the dangers of misusing, or even abusing, the concepts of CRP in a classroom, such as reducing the concept to simply providing a few books about people of colour or having a Kwanzaa celebration without an additional critical look at the holiday's historical and cultural significance (Ladson-Billings, 2014; Lev, 2021). Educators, teacher-leaders, and leadership teams must ensure that their classrooms and schools are not performatively implementing CRP, and are intentionally following not just the spirit, but the letter of the research contained within this proposal and countless other articles.

Throughout this research, multiple themes emerged that were repeated in the domain of CRP. Dominant among them were the multiple benefits of implementing CRP into teaching practices, celebrating diverse ways of knowing and being, the intertwined concepts of previously held teacher beliefs and the effects of teacher self-efficacy, and specific to a Canadian context, the pedagogical integration of Indigenous knowledge and worldviews.

Benefits of Culturally Responsive Pedagogy

One of the goals of implementing CRP is to increase equity for students who, for decades, have been underserved by the educational system. The three-year graduation

rate for Indigenous students in Edmonton is 67% in the Catholic district, and 47% in the public district (Cummings, 2023). Through targeted programs such as Braided Journeys (Edmonton Catholic Schools, 2023), these rates have been raised in specific schools, but the overall average remains far lower than hegemonic groups in Canada.

While recently immigrated and refugee-status students generally perform academically almost as well as their Canadian-born peers (OECD, 2015), they can still face significant educational, employment, and mental health challenges in their new country. Schooling and childcare perform essential roles in supporting these students and, with educators intentionally implementing CRP into their practices, can assist them in lowering cultural discordance and prevent real or perceived discrimination by celebrating these newcomers' various and culturally distinct ways of interacting with the world and can assist recently immigrated, as well as Indigenous students, in continuing on to post-secondary schooling (Chan, et al., 2021; Nazish et al., 2021).

Seminal pieces throughout the literature have espoused the benefits of implementing CRP for decades, including previously identified works by Gay and Ladson-Billings, whose writings identified that CRP, while requiring systemic changes, benefits all learners (Gay, 1988), and is particularly supportive of maintaining minority students' psychosocial, emotional, and cultural wellbeing while facilitating their academic achievements; previously, these were observed as mutually exclusive phenomenon (Ladson-Billings, 1995b).

While Gay and Ladson-Billings were writing their now-seminal pieces, other researchers were similarly identifying the phenomenon of minority students' cultural frames of reference existing in opposition to the mainstream, Euro-centric, hegemonic

culture. This oppositional existence creates difficult barriers for these students to cross, which does not allow for an effective learning environment (Ogbu, 1992). Since then, researchers have shown how implementing CRP into curricula and classroom processes allows students to feel a sense of belonging and connection to their learning environment (Hoytt et al., 2022), providing benefits in classes as diverse as English language arts, English as a second language, social studies and history (Aronson & Laughter, 2016), as well as math and science (Tanase, 2020). When subject-area teachers are aware of the cultural dispositions of their students and are simultaneously educated on the myriad benefits of CRP, as well its effective and authentic implementation, they tend to develop strength-based and growth-oriented views of their students (Pledger, 2018).

Expanding on the subject-specific ways that CRP contributes to classrooms is beyond the scope of this review, but evidence exists of benefits that transcend subject matter, and even classroom walls, and permeates throughout all aspects of a single school system. Across subject areas, researchers have found a positive relationship between in-class implementation of CRP and cultural socialisation, increases in student motivation, the development of self-perception as capable students, as well as interest in content and the ability for students to engage in content area discussions. Students with increased engagement are more intrinsically motivated to participate in class, learn challenging concepts, and gain new understandings of world-wide systems and structures (Aronson & Laughter, 2016; Hoytt et al., 2022).

Cultural socialisation, a crucial aspect of CRP and an ideally inevitable by-product of its implementation, is the process of learning about cultural values,

beliefs, and behaviours, promotes self-esteem, and helps students develop positive cultural identities that comprise feelings of belonging, ideals, and attitudes towards one's own cultural group or groups. Cultural socialisation is the most common ethnic-racial socialisation practice and is also most consistently related to positive outcomes for ethnic minority children. Relatedly, consciousness socialisation can follow its cultural counterpart, but involves active discussions of social inequity and systemic oppression (Hoytt et al., 2022). CRP can also reduce internalised oppression from racial erasure, bias, and deficit-based thinking by incorporating students' lived experiences into the curriculum, legitimising their real-life experiences and challenging students to recognize their own culture while gaining wider access to others (Pledger, 2018; Tanase, 2022).

Identity-based engagement can provide othered students with the opportunity to develop identities in community with others (Royal et al., 2022). CRP not only helps students learn about their own culture, but also increases cross-cultural awareness among all students, even those who represent the hegemonic or dominant cultures of a particular system. CRP focused on critical thinking can also result in all student groups recognizing systemic oppression at a macro level as well as the struggles that individual students may face, such as microaggressions and bias (Nortvedt et al., 2020; Edelen & Bush, 2021). Focusing attention on problem-solving and critical thinking, and away from fact-reproduction, benefits recent migrant and refugee students in particular (Nortvedt et al., 2020).

CRP practices have even been shown to result in an increase in student confidence while taking standardised tests (Aronson & Laughter, 2016). Of course, it

should be noted that standardised tests have historically not reflected diverse ways of knowing and being, and do not necessarily provide effective data for assessing the educational achievement of non-hegemonic populations. Therefore, while CRP implementation may relate positively to an increase in standardised test scores, considering this benefit runs counter to the philosophical underpinnings of CRP (Datnow & Park, 2018).

There are clearly multiple and varied benefits provided to students and school communities when educators make an intentional and informed effort to integrate CRP into their curricula and classroom experiences. In Alberta, teachers are also professionally required to continuously enhance their "understanding of First Nations, Métis, and Inuit worldviews, cultural beliefs, languages and values" (Alberta Education, 2018, p. 4), build capacity for Indigenous students, support all students by choosing resources that accurately represent Indigenous people through a strength-based lens, as well as "incorporat[e] students' personal and cultural strengths into teaching and learning" (p. 6).

Teacher Beliefs and Self-Efficacy

Teacher beliefs around racial, cultural, and ethnic differences influence instructional judgement (Gay, 2010; Ladson-Billings, 1995b), and are therefore important for an educator to identify in order to successfully implement CRP. Researchers have noted, however, that teachers' beliefs alone are not enough to implement CRP, as they also require a sense of self-efficacy. The interplay between,

and development of, these two tenants of an educator's abilities can lead to more culturally responsive practices within classrooms (Comstock et al., 2023).

To measure a teacher's levels of self-efficacy with regard to implementing CRP, two scales are commonly used: the Culturally Responsive Teaching Self-Efficacy Scale (CRTSE; See Appendix A), the Culturally Responsive Teaching Outcome Expectations (CRTOE; See Appendix B), and the Culturally Responsive Classroom Management Self Efficacy Scale (CRCMSE; See Appendix C) (Siwatu, 2007; Siwatu et al;, 2017). These scales are particularly useful, as the researchers have noted that self-efficacy beliefs are a necessary prerequisite for implementing newly acquired skills.

Pledger's 2018 Doctoral thesis, C*ultivating Culturally Responsive Reform: The Intersectionality of Backgrounds and Beliefs on Culturally Responsive Teaching Behaviors,* researched the effects of teacher's previously held beliefs on CRP implementation. Interestingly, Pledger found through the results of the CRTSE and the CRCMSE responses that, although cultural identity itself did not play a significant role in determining a teacher's sense of CRP and its benefits, lower scores on an individual's historical income and non-nuclear family status coupled with an upbringing that emphasised cultural diversity and an open, vulnerable, and growth-mindset indicated higher strength indexes. A reasonable implication from this finding could imply that culturally sensitivity and culturally sustaining practices are created empathetically and supports other findings that call for educators to experience diverse, long-term, and formative, cultural exposure. Teachers in this study built their confidence through collegial accountability structures that bookended with specific educational activities and

practices with a professional development pathway guided by research that promoted group work and building capacity in others (Pledger, 2018).

Other researchers have found that the foundation, format, and frequency of cultural identity exposure impacts teacher beliefs, and therefore teachers' abilities to incorporate cultural identity into their classrooms. Person to person interactions, reading both social science and multifaceted literature, integrating diverse components into everyday learning experiences, engaging in students' lived experiences, making an effort to validate students' particular ways of knowing and being, critically analysing systemic inequities, acknowledging that many systems of communication and information transfer exist outside of Euro-centric written word, and understanding the history of marginalised perspectives through a critical lens contributed positively to teacher belief and CRP implementation (Edelen & Bush, 2021; Gay, 2010; Pledger, 2018).

However, other research has shown that there are potential discrepancies between teacher's reported self-efficacy and their ability to actually implement CRP into their classrooms (Larson, 2017). Further work has shown that a more in-depth understanding of CRP led to both modest increases and decreases in self-efficacy, as once teachers understood the topic, some found their own skills lacking; it seems as though while self-assessment is a good first step, notable gains in self-efficacy require content knowledge, coaching, accountability, and multi-faceted awareness of both CRP and students' diverse cultures (Comstock et al., 2023; Pledger, 2018). These gains are often reported from effective professional development, which is a crucial aspect of implementing the findings of this research.

Understanding the historical and philosophical context of CRP is an important first step in our process, and examining teacher beliefs and self-efficacy allows educators to understand their own capabilities. However, readers should notice that, throughout the literature, authors and researchers specifically refer to the implementation of CRP; the implication here is that simply being aware, or even supportive, of CRP is not enough to help our most marginalised students. Fortunately, these authors, among many others, have provided both theoretical and practical methods and examples for implementing CRP into classrooms and school systems at large.

Methods of Implementing CRP

With a brief, if thorough, understanding of what CRP is and is not, we can begin discussing what CRP should look like within a classroom. This review will focus specifically on CRP-aligned practices that fit within the scope of CTE classes in general, and Albertan CTS classes in particular; as such, throughout this section, examples will be provided that clarify the applicability of a particular pedagogical approach through implementation in a secondary-level foods studies class.

Once an educator has, through professional development, discussions with knowledge holders, and their own research, assessed their own understanding of the philosophical underpinnings of CRP as adequate and has the desire and motivation to intentionally create a more equitable classroom for their students, they may find success by first looking at the concept of multiliteracies.

Multiliteracies, which are related to multimodalities and multiple ways of knowing and being, specifically refers to ways of interpreting, disseminating, and showcasing knowledge and understanding that may or may not align with hegemonic traditions of a particular place or time. For example, it is important for a teacher to understand that cultures around the world pass along information to future generations through non-textual means, such as storytelling, dance, or creation stories (Gay, 2010; Edelen & Bush, 2021; Lam, 2019). These authors stress that teachers must become willing to uncouple their expectations from hegemonic notions of what expression and assessment traditionally encompass. For example, teachers should be aware that some students, due to their cultural knowledge, upbringing, or identity, may best express ideas through conversation, and to allow for the assessment of curricular objectives based on non-textual information transmission. Interestingly, and fittingly, the often hands-on nature of CTE classes naturally lends itself to assessing students based on non-textual information. In the context of a foods studies class, a student can show mastery of a cooking technique without needing to read or recreate a recipe. They may be able to orally describe the history of a particular ingredient's journey across continents, and demonstrate decorating and food styling skills that match their own cultural or historical ways of understanding food preparation or presentation.

Similar to multiliteracies, though focusing instead on the content of the classroom rather than its style, is the act of providing multiple and alternate sources of information or material for students to engage with (Gay, 1988; Gay, 2002; Edelen & Bush, 2021). These researchers have noted that teachers should be aware of the worldview of whoever or whatever organisation created the sources they are using, as well as

whether or not that content supports, disrupts, or is indifferent to the current
Euro-centric status quo, or the legacy and history of discrimination, decolonization,
forced migration, and slavery. It is no longer enough to simply include the works of or
contributions to society from traditionally othered people; teachers must put in the work
to understand whether the content that their students must engage with supports or
disrupts their own place within the system. Teachers must also be cautious to avoid
universalities or generalisations as not all cultures, or even all peoples within a culture,
share the same worldviews, struggles, or strengths (Tanase, 2020). For an example of
teachers critically analysing the worldview of the resource or curriculum designer related
specifically to foods studies, one may consider the *Canada Food Guide* and its place
within both the Alberta curriculum and the long history of this country's colonialist and
genocidal actions. Any foods studies teacher in Alberta that is teaching "Food &
Nutrition Basics" must teach their students to "Apply healthy food choices in relation to
Eating Well with Canada's Food Guide", as well as "recognize alternative and culturally
diverse menus" (Alberta Education, 2010). To fully integrate CRP principles within their
classroom while meeting all of these curricular objectives, this foods studies educator
may, along with teaching the tenets of the *Canada Food Guide*, also inform students
that the origins of the guide itself lie in nutritional experimentation, starvation, and abuse
of Indigenous students within Canadian residential schools (Tennant, 2021), and access
modern resources on the traditional diets of Indigenous people within their geographical
or Treaty lands. They may also discuss food guides in other countries, and compare the
similarities and differences, and how or why specific foods are favoured in some
countries or cultures and not others.

When a teacher has become aware of the need for and benefits of CRP, is prepared to engage with multiliteracies and multiple ways of expression, they can begin to consider more advanced ways of supporting their traditionally othered students. Two effective ways of doing so are by promoting student agency and student voice-as-power.

The concepts of student agency and voice-as-power, while not exclusive to CRP, are important aspects of this educational philosophy. Providing agency, as a student-centred practice, is highly effective in promoting culturally relevant content within a classroom. Providing students with the chance to take charge of their own education, by allowing them to choose topics, sources, and means of expressing their understanding are primary ways of allowing students to generate their own educational agency (Zeiser, 2018). Since Western education reflects the dominant social narrative of wherever and whenever it was created, providing students agency in how they navigate the unavoidably colonialist and hegemonic aspects of their curriculum allows for those who are societally disenfranchised to better express themselves (Nortvedt et al., 2020).

It should be noted that specific care must be taken when providing students agency, because those who have not acquired the cultural capital for discovering knowledge at school are less likely to value their own agency, and others may be ushered into insulated echo chambers when pursuing their own interests (Darvin, 2019). The first issue can be helped by partnering students with others who share their interests and have been identified, through deep and personal relationships with their teacher, as having acquired said cultural capital. The latter issue can be mitigated

through constant formative feedback and assessment of the students' progress throughout their projects as well as regular dialogue and intentionally steering the student towards relevant sources whenever necessary.

When students can make their own educational choices, teachers are also allowing for student voices to flourish; doing so is a primary aspect of the concept of voices-as-power.

Allowing for people's voices to be heard, or unheard, throughout society has long been a method of controlling non-dominant populations. Traditionally, voices have generally only been allowed to project downwards, not towards those who hold power. Crucially, for a voice to have power, it must be heard from the one speaking, and should not be transcribed or translated in order for it to have the maximum and intended level of impact on the audience. Non-hegemonic students projecting their voice-as-power is also an effective way for those with and without power to learn about both themselves and others (Olivier & Besharah, 2014).

Ensuring that students' voices are heard can include, but of course is not limited to, providing spaces for critical opinions about topics to flourish within a classroom or school community, allowing students the chance to express their concerns regarding course material, and encouraging multiple modes of expression, understanding, and assessment.

Weaving together the concepts of multiliteracies, multiple modes of understanding, student agency, and student voice can be a daunting task, and will inevitably be challenging for both novice and experienced teachers. While demonstrating the various ways in which to implement these concepts within CRP in

various subjects and grade levels is beyond the scope of this review, there is value in taking the time to examine one particular pedagogical concept that encompasses these goals and is easily applicable to the particular educational interests of the author: Project-based-learning (PBL).

PBL is neither a new concept nor one that appears daunting at first glance. It is a pedagogical approach to education that is individualised to a particular student's needs, interests, and worldviews, and emphasises hands-on, self-generated, long-term, and often community-based assignments. When these projects build partnerships with the community, they tend to focus on building capacity, sharing knowledge, developing expertise, and solving problems, while building social capital and providing informal learning that enhances the development of a student's identity (Maida, 2011; Zwane & Mpofu, 2022). PBL builds student agency by allowing students to take control of their education and emphasises a growth mindset (Zeiser et al., 2018). PBL is particularly effective in fine arts and CTE classes, as their unique positionality outside of the "core" classes allows teachers more flexibility and creativity in the integration of their classes as well as providing the possibility for cross-curricular work that is intentionally designed to critically examine power structures and social inequities present in other disciplines, such as history, English language arts, and the sciences. Additionally, and particularly when implemented in a cross-curricular manner by pulling curricular objectives from multiple courses and possibly even involving the coordination of different teachers simultaneously, PBL can help to de-silo the distinct disciplines and move towards a more holistic interpretation of knowledge. This move towards knowledge generation that recognizes context and is focused on relationships can guide learning away from

anthropocentric, Cartesian viewpoints, and towards knowledge that, especially in a Canadian context, is more supportive of Indigenous worldviews and ways of knowing and being (Zidny et al., 2020).

Indigenous knowledge integration

This proposal is specifically written for the context of North American communities, and as has already been identified, Canadian indigenous students face lower rates of graduation than their peers. In order to support Indigenous students within the school system, teachers should consider designing curricula that specifically supports their ways of navigating knowledge and understandings. Of course, teachers should be familiar with the previous concepts demonstrated throughout this review and ensure they are reliable and responsibly accessing information and traditional knowledge before designing curricula or lessons through an Indigenous lens. That being said, educators can do so by ensuring they pay attention to the sociocultural, historical, and current politics of a place and pedagogically acknowledging multiple perspectives, similarities, differences, and relations of knowledge systems. Teachers need ensure they are validating cultural identities within cosmological and epistemological understandings, recognizing the spirituality, philosophy, worldviews, and stories of Indigenous peoples, as well as individually focusing on students' emotional and spiritual development, acknowledging their reactions and instincts, self-reflecting in the ways that question intuition rather than cognitive beliefs or evidence, and students' own social wellbeing vis-a-vis their work in the classroom and within the community (Zidny et al., 2020; Claypool & Preston, 2011).

Interestingly, and specifically applicable to the purposes of this review, much of the research into incorporating Indigenous knowledge into curricula and students' educational experiences is centred around agriculture, food production, and synthesising traditional knowledge and processes within Western educational practices. The lessons learned from this research and these experiences can be applied to foods studies classes with a CRP lens in secondary schools throughout North America at large.

Foods Studies and Home Economics

In much of the world, the concept of foods studies is intertwined with the broader concept of home economics. Searches for foods studies or similar phrases yielded few relevant results, and for the purposes of this and future work, readers should be aware that in most countries, foods studies, food sciences, and culinary arts may be more likely to fall under the purview of home economics studies. Searching for home economics and for organisations and journals such as the *International Federation for Home Economics* yielded a variety of historical and analytical pieces, including those specifically researching the history of, and potential for, future decolonization and multicultural integration of home economics classrooms.

Home economics is an interdisciplinary approach to the study of homemaking and the activities of the family that began in the nineteenth century as a way for women to learn how to provide for their families, cook nutritious food, and become generally knowledgeable consumers. However, it was formally established as its own distinct field in the early twentieth century with the integration of the American Home Economics

Association. Home economics classes soon spread around the world, although it was not until the 1970's that actual research on the topic began in earnest (Kimonen & Nevalainen, 2017).

Decolonizing Foods Studies

Modern research, notably in Finland, Africa, and Western Canada, often calls for the decolonization of home economics classes in general and foods studies in particular. Researchers suggest beginning with a decolonization of the home economics teacher's mind, as they, and by extension the discipline as a whole, are unknowingly complicit in the perpetuation of colonialist narratives and legacies (McGregor, 2022). Others suggest a decolonization first of the actual research done into home economics, particularly in the area of Indigenous needs and ways of engaging with foodways (Smith, 2022). Still others recommend the use of, in home economics and foods studies classes specifically, recipe materials developed by Indigenous people using ingredients grown and harvested by the students themselves (Zwane & Mpofu, 2022).

Not only do researchers call for the decolonization of home economics broadly and foods studies specifically, but food and foodways themselves have been understood for decades to be an excellent source of what would now be called CRP. Food is understood to be familiar to all, act as a central pillar of popular culture, exist as a tangible embodiment of identity, a link to personal and familial history, and is effective in helping students to understand both their own and others' cultural heritages (Tucker, 2021).

The practice of using foodways, or the discipline of examining food-related behaviour and knowledge transfer in cultural groups (Katz & Weaver, 2003), has existed in foods studies classes for decades, and some of the earliest extant and detailed evidence exists in an archived document from the Brooklyn Historical Society (1990). In this document, designed for teachers hoping to provide culturally relevant teaching to their classes, the authors identify the trend of foods originating in other countries remaining as a part of immigrants' communities, with or without becoming part of the surrounding culture. Teachers were encouraged to ask students to research their families' historical recipes, interview parents, grandparents, and local experts, explore cultural food within their communities, and share their findings, feelings, and personal perspectives in what would still now be considered culturally sensitive and responsible manners. The age of this particular resource makes it clear that using foodways as the crux of cultural studies is not a new concept, that finding and re-tooling, or creating new resources that have been vetted as accurate and strength-based by knowledge holders would be a worthwhile endeavour.

Specific to our Canadian context, there is ample evidence of utilising Indigenous knowledge, histories, and traditions to support the study of pre- and post-European foodways. Norma Marshal, a Native American studies and Mvskoke language instruction, collaborated with the Mvskoke Food Sovereignty Initiative in order to start a cultural garden on a new campus in Oklahoma. Students cultivated traditional crops while learning the Mvskoke language and of corn as a gift from the Creator (Corn Mother or Corn Woman), and how to make traditional foods such as vpvkse (a sweet drink) and cvtvhakv (a corn dumpling). This holistic approach to food preparation,

production, and sovereignty coupled with traditional crafting and woodworking taught students about Indigenous societies sustaining their ways of life, and suggested the implementation of Indigenous methodologies of critical thinking, problem solving, and planning for the future into the school's curricula (Tyner, 2019).

Other research, conducted in partnership with the Confederated Salish and Kootenai Tribes, has shown efficacy in incorporating Indigenous communities' knowledge, in partnership with Elder knowledge holders, to develop culturally appropriate food products. By the end of the project, students reported a growing understanding of and an appreciation for storytelling as a means of knowledge transmission, experiential learning, and conveying community culture with creative recipe building (Kuo et al., 2020). It is worth noting that cooking, crafting, and woodworking are all topics that fall under the scope of CTS broadly, and internationally within home economics.

Modern post-secondary courses have expanded upon these practices outside of Indigenous contexts by integrating food, food science, and foodways into their classes. In Canadian and American Universities, Bob Manteaw uses chocolate production and consumption to critically examine students' assumptions about culture, power, and privilege, as well as study the socio-cultural phenomenon of cocoa production and its wider social, political, and economic implications in Ghana, Africa (Manteaw, 2021). Another popular course, called *Taco Literacy: Literacy Learning and Mexican Foodways*, taught by Steven Alvarez at St. John's University, uses the foodways of Mexican immigrant families to discover the knowledge that students may use to explore Latinae communities (Alvarez, 2019). In this writing course, students contextualise

global perspectives of Mexican foodways, discuss personal connections, articulate their sense of Mexican culture's place within America and the world at large, and digitally publish their fieldwork and results. The students in these classes report deeper understandings of history, people, and their stories, as well as systemic and individual racism and political structures, and an increased appreciation for learning about someone's history as it is reflected in the food they make.

Other researchers suggest using foodways to discover and discuss specific and significant historical acts. In a context that is particular to the United States, multiple authors have suggested using foodways in the southern United states to teach students about forced migration, slavery, colonisation, individual and cultural resiliency, and influences on both modern cuisine and culture (Passidomo, 2018; Tucker, 2021). It is clear from these examples that applying CRP to the study of food and foodways, as well as other home economics disciplines such as fashion and garment construction, has the potential to not only support individual student's worldviews, perspectives, and identities, but can also intentionally and effectively create space for interdisciplinary studies that extends beyond CTE classrooms.

Having identified the tenants and philosophical underpinnings as well as the benefits of CRP implementation, and how CTE, home economics, and specifically foods studies courses' unique position within the educational system can support multiliteracies and multiple modes of expression, the next logical step is understanding the research process itself, followed by a look at how educational leaders can develop professional resources that further teachers' cultural responsivity potential both individually within classrooms and holistically within school systems at large.

Research and Decolonization

The use of a particular lens through which to view change management processes assists the researcher in not only focusing their intentions, but frames their work in a way that best serves the intended [rights, title, and][1] stakeholders. As the act of research is a process designed to create knowledge, unravel novel understandings, or share traditional knowledge of a particular cultural group (Datta, 2018), the need becomes clear, for the purposes of this proposal, to use a *knowledge regime*, or the understanding of "political power and authority, legal normativity, the social fabric, power relations, and knowledge" (Aasen, 2014, p. 724), as a lens through which to view our work.

Aasen (2014) identifies multiple separate but interconnected knowledge regimes that have shaped educational policy, research, and implementation in Norway, and the social-critical knowledge regime that they identify is useful for our purposes. The social-critical regime views school as a learning ground for political participation in pluralistic societies, understands divisions between groups, classes, and communities, is critical of equity based on common heritage, cultural domination, and hegemony, and aims to achieve equity by recognizing various groups' interests due to their social and cultural positions. Working through this regime, the researcher can understand that multicultural and pluralistic societies do not have self-evident common goals or visions for the common good, that the struggle born from differing ways of constructing meaning both between and within groups is connected to structural inequities, and that knowledge is both biased and powerful and therefore its creation and dissemination can distribute power socially. The social-critical researcher also questions both the definition

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[1] The inclusion of [rights, title, and] serves to highlight the importance of Indigenous peoples' unique position on Treaty land, and the additional rights and titles afforded to them through these historical and binding agreements.

of knowledge and whose knowledge is taught, focuses on hegemony, resistance, hidden, local, and community-based curriculum, and in our case, aims to facilitate the creation and implementation of curriculum that emphasises away from economic growth and towards communalism, solidarity with the developing world, peace education, the global environment, and that critically analyses social inequity and consciousness formation, and facilitates social change through activism.

It is important to understand that undertaking this research through the lens of a social-critical knowledge regime is not alone sufficient for our purposes; we must also ensure that our work, which aims in part to both understand and facilitate the decolonization of CTS classes in Alberta, is itself decolonized. Of course, this research may not focus entirely on Indigenous students and communities but also intentionally include immigrant and refugee populations of Alberta. However, the process of decolonization is appropriate to take when constructing knowledge systems of various non-hegemonic groups, as most have also suffered losses of identity, environments, and ways of understanding to colonialist and genocidal practices.

Multiple writers have produced pieces that specifically outline both concrete steps and underlying philosophical approaches to decolonizing research. Decolonised research is transformative, emerges from either non-mainstream cultures or empathetic outsiders, makes explicit the wide range of understands and experiences of various groups without essentializing or universalising them, and questions the relationships of knowledge and power in ways that align with the social-critical regime outlined earlier (Banks, 2016).

Our research must proceed only with the understanding that, historically, Western research methods and results have often been undertaken to serve and advance colonial control, exploit Indigenous people by stealing knowledge for their own profit and gain, and that Western researchers hold unseen power over their non-Western subjects due to their ability to select research topics and decide how data are collected, analysed, and presented. Researchers need to internalise an understanding that their own epistemological frames informs their work, while rejecting disciplinary thinking, and instead view knowledge as holistic, tied to the land, disseminated in non-textual and communal ways, and that decolonization is a life-long learning process that requires critical systemic and self-analysis and reflection. A decolonised process must include Indigenous voices and epistemology by critically examining the underlying assumptions that inform the Western knowledge-based forms of understanding that pervade research methods. (Banks, 2016; Datta, 2018; Simonds & Christopher, 2013).

These authors also have provided concrete actions that researchers can take to continue to decolonize their work. Pertinent to our work are the suggestions that researchers build relationships with the community being studied and to participate in the research, as opposed to acting as neutral observers. As well, researchers must reflect on the goal of their research and who it will benefit, include Indigenous questions and concerns into their research in meaningful and flexible ways, honour the sovereignty of Indigenous people as well as their knowledge (Datta, 2018), discuss the role of worldviews with the [rights, title, and] stakeholders, consult with the community on appropriately adapting Western-style methodologies, and consciously and

continuously attend to the process of decolonization throughout their research (Simonds & Christopher, 2013).

For the purposes of this research, which is to understand and identify the ways in which CTS teachers in Alberta are supporting non-hegemonic students' ways of knowing and being, it should be clear that the development of research methods requires intentional decolonization. To facilitate this process, the research will be undertaken using methods congruent with qualitative action research (QAR) as identified by Merriam and Grenier (2019).

QAR is conducted by those who want to address a problem or an issue in their or another community and subsequently take action based on the findings; as the recommendations for the implementation of the research findings involve the creation of resources and professional development (PD) sessions, QAR is an appropriate method for researchers to adopt for the purposes of this proposal. When undertaking QAR, the choice of sampling should not be random; it is important to select purposive samples from which the most can be learned, and include the determining of essential criteria such as age, experience, gender identity, and cultural or ethnic background for both teachers and students. Data collection and analysis are often done with initial surveys, which in this case would include appropriately modified versions of the CRCMSE, CRTOE, and CRTSE to establish a baseline of the educators' understanding of CRP and to pre-select for teachers whose beliefs and teaching practices align with the classroom-based actions that are the subject of this research. Further aspects of QAR align with previously identified aspects of decolonized research, such as interviews that begin with a structure but are later influenced by the encounters with the participants

and are not exactly pre-determined but informed by the themes and keywords found in the CRCMSE, CRTOE, and CTRSE, as well as classroom interactions that can be observed firsthand and may or may not be participatory, and document analysis with participants' input and reflections (Merriam & Grenier, 2019).

Research, by itself and as a knowledge generating tool, is rendered only an intellectual exercise that can be seen as serving the academic community and the scholars' own benefit if the findings are not implemented in meaningful ways; this holds true even when decolonised and accomplished through, for example, a social critical lens. In our context, this implementation will involve developing resources and PD sessions that benefit non-hegemonic students' experiences in CTS classes by providing their teachers with the means to facilitate learning in culturally responsive and sustaining ways. Therefore, this proposal will conclude with an understanding of the change management processes that may be involved with the creation of these resources and their classroom-level implementation as well as identifying future research to undertake, supported by specific recommendations from the literature.

Change Management Processes

CTE classes, as unique educational entities within complex systems, may require specific shifts in educators' individual pedagogical approaches away from the historically deficit-based position of a dumping ground for marginalised and at-risk youth. Jocson (2020), while studying a multimedia classroom's approach to increasingly humanising pedagogy, wrote that a shift away from the teacher being the sole expert in the room and towards a student-interest driven, action research-based approach to

project design and development, found that this process, while meeting initial resistance from the veteran teacher, successfully leveraged students' passion and cultural knowledge to create engaging and educational lessons in a diverse classroom. Similar results may be found throughout CTE classes in general, and CTS classes in particular; that is, when lessons and projects are designed based on student interests and cultural knowledge, reinforces identities, and treats culture as assets of real value (Helme, 2007), educators may find themselves able to more thoroughly engage their classes with meaningful learning opportunities. These opportunities are particularly pertinent to the educational system's goals of lifting more Indigenous and marginalised students to success, and continues to view them and their cultures through strength-based lenses.

As has already been identified, a strength-based view of students is crucial to their educational success; why, then, should we not view teachers through the same lens? Educators are the co-constructors of educational change, and when viewed as such both internally and externally, may enact change more quickly and with more granular precision due to their deep personal relationship with students and sensitivity to educational contexts than top-down policy or curriculum levels may achieve (Harris & Jones, 2019). Therefore, since the changes enacted by the implementation of these research outcomes may most effectively be seen at the classroom level, the intent to develop resources and PD sessions that can be used immediately and also form the basis of long-term teacher growth is appropriate.

Professional Learning and Development

It should be clear by the depth and breadth of pedagogical underpinning, requirements for the development of teacher belief and self-efficacy, and the myriad ways to implement CRP within a classroom as presented throughout this review, that ad-hoc PD, attended by only select educators at irregular occasions, will not be enough to effectively implement CRP in a systems-wide manner. Ideally, school leadership teams will integrate the inclusion of CRP into their school improvement plans that are similar to the already established and validated Multi-Tiered Systems of Support (MTSS) (Fallon, et al., 2023). Holistic and multi-tiered support systems will better address the previously outlined issues of graduation rates, mental health, psycho-social and cultural support required of Indigenous and other students whose cultural identities are not reflected by the hegemonic curriculum. Additionally, it may be prudent to use a modified version of Fallon et al.'s (2023) Assessment of Culturally and Contextually Relevant Supports (ACCReS; See Appendix D) to determine the level of CRP PD that has supported the development of both hard and soft skills that teachers receive, access, and utilise within the Albertan school districts that are being studied.

In order to take into consideration the varied and complex school system itself, leadership teams can consider using an inquiry-based approach rather than using student-based data (Park et al., 2013). Doing so requires co-constructing of reforms by collaborating educators in order to account for the various contexts of a school system, ensuring that teachers have access to multiple training opportunities, creating a culture of changing educational practices and supporting others' PD (Katz & Dack, 2014; Park, et al., 2013; Thoonen et al., 2012).

Research has shown that PD built on effective implementation of CRP can close the gap between school and student needs by providing pedagogical knowledge and strategies for participants to explore, understand, and apply new concepts within their classrooms. These sessions focused on teacher self-awareness, connecting classroom content to student experiences, cultural competencies, and critical social and cultural consciousness. The most effective CRP PD is purpose-built with a particular vision, focuses on both general and special education, has a clearly communicated vision to participants, and takes place over multiple sessions, which reinforces the need for continued teacher development that is not a single session or workshop. Additionally, teachers found they did not always need to be content experts, but by building relationships with students and bringing in experts from the community, they were able to create learning opportunities based on student needs (Caldwell, 2022; Patton, 2011).

For the purposes of pursuing CRP within the context of foods studies classes, though the initial stages would apply to multiple disciplines, there are a number of possible approaches that educators, leadership teams, and resource and curriculum developers could take. Based on the research outlined in this review, educators should take part in PD sessions that help to identify their own beliefs regarding the necessity and benefits of CRP. These sessions could, for example, be run as focus groups that take the form of talking circles. This format, when led by knowledge holders and members of a particular or diverse set of minority communities, allows participants to feel free to engage with other members (Brandenburger et al., 2017). Once these educators have examined their beliefs, they can begin to develop their sense of

self-efficacy with practical, hands-on examples of implementing CRP in their classrooms.

Specific to a foods studies context, there is as much material and content for them to include in their courses as there are cultures around the world. It would, therefore, be beneficial to tailor sessions to fit the demographic makeup of their particular neighbourhoods; in a Canadian context, this would naturally include Indigenous knowledge in every school, as all Canadian schools operate on Indigenous land. Specific professional develop can include, but is of course not limited to, inviting knowledge holders to share traditional recipes, ingredients, and stories that tell the history of the land and its people through food. In the Edmonton School Division specifically, PD sessions have included Indigenous knowledge holders teaching educators about the history of Bannock and its significance as a "struggle food" and symbol of resiliency, making soups or stews with buffalo and ingredients that were harvestable along buffalo travelling routes, and current Indigenous cooking that marries traditional or resiliency ingredients with modern culinary methods (Pei Pei Chei Ow, personal communication, May 2018; November 2022). After completing these sessions, and with the intentional and freely-given blessing of the knowledge holders, the educators will be able to teach their classes in culturally sustaining ways, by including not only the history of a food, but also its socio-political, environmental, and current cultural context.

These examples, while brief, are illustrative of both the effort required of the educators, leadership teams, and organisers, and the potential boons to traditionally othered students who will benefit from seeing their own worldviews represented in

classes such as foods studies that are already culturally charged and rife with the potential for hegemonic domination or appropriation. Implementing PD resources and sessions will require the coordinated efforts of a number of individuals that span various organisations and communities. In particular, organisations such as the Edmonton School District have both CTS and diversity education consultants who have previously worked with participating teachers, teacher-leaders, school administration, and community members and knowledge holders to develop PD resources and sessions. These consultants will likely form the primary link between the results of this research, the researchers themselves, and the previously identified content creators and managers.

It should be clear, through both the depth and breadth of this review, that the work to implement CRP into foods studies classes alone will be neither quick nor without significant logistical challenges. However, a task's difficulty does not diminish its necessity, and with that understanding, it would behove the reader to fully consider and appreciate the future work that must be done to accomplish these lofty, ambitious, and ultimately, necessary goals.

Implications for Future Work

Many of the studies reviewed throughout this piece have their own specific recommendations for future research that supports the author's vision in these areas. Rehm (2008) calls for a need for more PD in providing practical tips, language resources, and cultural references specifically designed to develop greater understanding and skills for working with diverse students, as well as collaboration

between CTE teachers and community members, more studies directly observing and measuring the relationship between different teaching approaches with workplace skills and knowledge gained from students from diverse cultures, and students' views regarding their sense of inclusion by the teacher, academic success, and engagement with other students.

Pledger's 2018 dissertation calls for holistic and district-level study and quantitative tracking of achievement over time, as well as increased sample sizes and the inclusion of suburban and rural environments and the inclusion of in-house culturally responsive support specialists. Hoytt et al., in their 2022 article, calls for PD specifically in the area of bi-directional literacy and culture. Tanase's 2020 piece recommends long-term studies that return to teachers year after year to see their specific progress. Finally, and importantly for this review, Tucker's 2019 dissertation recognizes that there is little existing research on foodways in secondary educational settings, and that teachers are responsible for creating their own foodways curriculum, and therefore calls for more such research and modernised curriculum development.

While this author recommends a thorough examination of the ways in which foods studies teachers in Alberta are implementing CRP into their classrooms, further research should also be conducted into other areas of study in Albertan secondary schools, such as cosmetology and fashion studies, where the potential for cultural hegemony to permeate throughout the curriculum, and therefore teachers' instruction and student learning, exists in profound and significant ways. The research could continue to qualitatively measure the ways in which CTS teachers are utilising the concepts of multiliteracies and multiple methods of assessment and expression,

culturally sustaining materials and sources of information, amplifying and providing platforms for student voice and allowing for voice-as-power, and promoting student agency. Research should also look to understand the relationship between CTS teachers' beliefs and sense of self-efficacy, and measure all these results in terms of both the reported benefits of CRP practices and against a quantitative measure of how often, and under what circumstances, CTS teachers are practising CRP in their classrooms.

In order to support the most vulnerable Albertans, particular focus should be paid to the integration of Indigenous knowledge and support for Indigenous students' backgrounds, beliefs, and ways of understanding the world and its various systems. Specific schools and districts may choose to also focus attention on particular minority groups depending on the demographic makeup of their population.

Following the study of current teachers' culturally relevant practices in Albertan CTS classes, a close read of the literature suggests the need for intentional, targeted, long term, holistic, and integrated professional development designed to develop CTS teachers' beliefs, sense of self-efficacy, skills, resources, community connections, and knowledge to implement CRP into their classrooms by building on student experiences, developing their own cultural knowledge, and forging relationships with experts in their own communities. Finally, teacher-leaders, leadership teams, and educators themselves must continuously develop their knowledge and understandings and apply their newfound efficacies in ways that are not performative, but intentionally follow both the spirit and the law of CRP.

   CTE classes throughout various countries, and CTS classes in Alberta in particular, are uniquely positioned within the educational system. Their focus on vocational, hands-on learning is fertile ground to allow the growth and flourishing of CRP. Continuing the work that Gay, Ladson-Billings, and many others have built for decades, this author hopes that their pedagogical theories, beliefs, and actions can transform a section of the educational system that, until recently, has underserved our most vulnerable students, into one that supports their unique and varied identities, worldviews, and cultural understandings.

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Appendix A

Culturally Responsive Teaching Self-Efficacy Scale

Teachers are asked to rate how confident they are in their ability to engage in specific culturally responsive teaching practices by indicating a degree of confidence ranging from 0 (no confidence at all) to 100 (completely confident)

1. Adapt instruction to meet the needs of my students

2. Obtain information about my students' academic strengths

3. Determine whether my students like to work alone or in a group

4. Determine whether my students feel comfortable competing with other students

5. Identify ways that the school culture (e.g., values, norms, and practices) is different from my students' home culture

6. Implement strategies to minimize the effects of the mismatch between my students' home culture and the school culture

7. Assess student learning using various types of assessments

8. Obtain information about my students' home life

9. Build a sense of trust in my students

10. Establish positive home-school relations

11. Use a variety of teaching methods

12. Develop a community of learners when my class consists of students from diverse backgrounds

13. Use my students' cultural background to help make learning meaningful

14. Use my students' prior knowledge to help them make sense of new information

15. Identify ways how students communicate at home may differ from the school norms

16. Obtain information about my students' cultural background

17. Teach students about their cultures' contributions to science

18. Greet English Language Learners with a phrase in their native language

19. Design a classroom environment using displays that reflects a variety of cultures

20. Develop a personal relationship with my students

21. Obtain information about my students' academic weaknesses

22. Praise English Language Learners for their accomplishments using a phrase in their native language

23. Identify ways that standardized tests may be biased towards linguistically diverse students

24. Communicate with parents regarding their child's educational progress

25. Structure parent-teacher conferences so that the meeting is not intimidating for parents

26. Help students to develop positive relationships with their classmates

27. Revise instructional material to include a better representation of cultural groups

28). Critically examine the curriculum to determine whether it reinforces negative cultural stereotypes

29. Design a lesson that shows how other cultural groups have made use of mathematics

30. Model classroom tasks to enhance English Language Learners' understanding

31. Communicate with the parents of English Language Learners regarding their child's achievement

32. Help students feel like important members of the classroom

33. Identify ways that standardized tests may be biased towards culturally diverse students

34. Use a learning preference inventory to gather data about how my students like to learn

35. Use examples that are familiar to students from diverse cultural backgrounds

36. Explain new concepts using examples that are taken from my students' everyday lives

37. Obtain information regarding my students' academic interests

38. Use the interests of my students to make learning meaningful for them

39. Implement cooperative learning activities for those students who like to work in groups

40. Design instruction that matches my students' developmental needs

Appendix B

Culturally Responsive Teaching Outcome Expectations

Questions are responded to with a number value on a scale from 0-100. Higher values indicate a teacher's stronger belief in the validity of the statement.

1. A positive teacher-student relationship can be established by building a sense of trust in my students

2. Incorporating a variety of teaching methods will help my students to be successful.

3. Students will be successful when instruction is adapted to meet their needs.

4. Developing a community of learners when my class consists of students from diverse cultural backgrounds will promote positive interactions between students.

5. Acknowledging the ways that the school culture is different from my students' home culture will minimize the likelihood of discipline problems.

6. Understanding the communication preferences of my students will decrease the likelihood of student-teacher communication problems.

7. Connecting my students' prior knowledge with new incoming information will lead to deeper learning.

8. Matching instruction to the students' learning preferences will enhance their learning.

9. Revising instructional material to include a better representation of the students' cultural group will foster positive self-images.

10. Providing English Language Learners with visual aids will enhance their understanding of assignments.

11. Students will develop an appreciation for their culture when they are taught about the contributions their culture has made over time.

12. Conveying the message that parents are an important part of the classroom will increase parent participation.

13. The likelihood of student-teacher misunderstandings decreases when my students' cultural background is understood.

14. Changing the structure of the classroom so that it is compatible with my students' home culture will increase their motivation to come to class.

15. Establishing positive home-school relations will increase parental involvement.

16. Student attendance will increase when a personal relationship between the teacher and students has been developed.

17. Assessing student learning using a variety of assessment procedures will provide a better picture of what they have learned.

18. Using my students' interests when designing instruction will increase their motivation to learn.

19. Simplifying the language used during the presentation will enhance English Language Learners' comprehension of the lesson.

20. The frequency that students' abilities are misdiagnosed will decrease when their standardized test scores are interpreted with caution.

21. Encouraging students to use their native language will help to maintain students' cultural identity.

22. Students' self-esteem can be enhanced when their cultural background is valued by the teacher.

23. Helping students from diverse cultural backgrounds succeed in school will increase their confidence in their academic ability.

24. Students' academic achievement will increase when they are provided with unbiased access to the necessary learning resources.

25. Using culturally familiar examples will make learning new concepts easier.

26. When students see themselves in the pictures that are displayed in the classroom, they develop a positive self-identity.

Appendix C

Culturally Responsive Classroom Management Self-Efficacy Scale

Teachers rate how confident they are in their ability to successfully accomplish each of the tasks listed below by recording a number from 0 (no confidence at all) to 100 (completely confident).

1. Assess students' behaviors with the knowledge that acceptable school behaviors may not match those that are acceptable within a student's home culture.

2. Use culturally responsive discipline practices to alter the behavior of a student who is being defiant.

3. Create a learning environment that conveys respect for the cultures of all students in my classroom.

4. Use my knowledge of students' cultural backgrounds to create a culturally compatible learning environment.

5. Establish high behavioral expectations that encourage students to produce high quality work.

6. Clearly communicate classroom policies.

7. Structure the learning environment so that all students feel like a valued member of the learning community.

8. Use what I know about my students' cultural background to develop an effective learning environment.

9. Encourage students to work together on classroom tasks, when appropriate.

10. Design the classroom in a way that communicates respect for diversity.

11. Use strategies that will hold students accountable for producing high quality work.

12. Address inappropriate behavior without relying on traditional methods of discipline such as office referrals.

13. Critically analyze students' classroom behavior from a cross-cultural perspective.

14. Modify lesson plans so that students remain actively engaged throughout the entire class period or lesson.

15. Redirect students' behavior without the use of coercive means (i.e., consequences or verbal reprimand).

16. Restructure the curriculum so that every child can succeed, regardless of their academic history.

17. Communicate with students using expressions that are familiar to them.

18. Personalize the classroom so that it is reflective of the cultural background of my students.

19. Establish routines for carrying out specific classroom tasks.

20. Design activities that require students to work together toward a common academic goal.

21. Modify the curriculum to allow students to work in groups.

22. Teach students how to work together.

23. Critically assess whether a particular behavior constitutes misbehavior.

24. Teach children self-management strategies that will assist them in regulating their classroom behavior.

25. Develop a partnership with parents from diverse cultural and linguistic backgrounds.

26. Communicate with students' parents whose primary language is not English.

27. Establish two-way communication with non-English speaking parents.

28. Use culturally appropriate methods to relate to parents from culturally and linguistically diverse backgrounds.

29. Model classroom routines for English Language Learners.

30. Explain classroom rules so that they are easily understood by English Language Learners.

31. Modify aspects of the classroom so that it matches aspects of students' home culture.

32. Implement an intervention that minimizes a conflict that occurs when a students' culturally based behavior is not consistent with school norms.

33. Develop an effective classroom management plan based on my understanding of students' family background.

34. Manage situations in which students are defiant.

35. Prevent disruptions by recognizing potential causes for misbehavior.

Appendix D

Assessment of Culturally and Contextually Relevant Supports

Teachers are asked to rate how confident they are in their ability to engage in specific culturally responsive teaching practices by indicating a degree of confidence ranging from 0 (no confidence at all) to 100 (completely confident).

1. Culturally and contextually relevant instruction is important to how I teach.

2. I know how to provide culturally and contextually relevant instruction.

3. I use explicit instruction when I teach (e.g., clearly describe, model, and practice content with students).

4. I differentiate instruction to support the different learners I teach.

5. I provide additional (or more intensive) academic support when a student needs it

6. I plan lessons that are designed to actively engage all learners when I teach.

7. I modify the curriculum to be culturally and contextually relevant, when appropriate.

8. I consider students' culture when I decide on the type of instructional support I will provide.

9. I listen actively to students when they express concerns.

10. I understand that behavior may be context-specific (e.g., different behaviors may be more appropriate at home or school).

11. I engage in more positive interactions with students than negative interactions.

12. I am consistent and fair when it comes to discipline.

13. I explicitly teach social skills (e.g., ways to ask for help appropriately).

14. I explicitly teach students about my expectations for classroom behavior.

15. Each day, I personally greet all of my students.

16. I work to build a positive relationship with each student I teach.

17. I ask families to help define my classroom expectations.

18. I deliver praise equitably in my classroom.

19. I actively monitor all parts of the classroom.

20. I consider a student's culture when selecting a research-based intervention strategy.

21. I self-assess my cultural biases regularly.

22. I understand that some students are at risk for being disproportionally excluded from the learning environment (e.g., sent to the office, suspended, expelled).

23. I collect classroom data to inform the equity of my interactions across students (e.g., frequency and distribution of positive interactions).

24. I collect classroom data to inform the equity of my disciplinary actions across students (e.g., evidence of consistent consequences administered).

25. I review academic data for trends that reflect disproportionality (e.g., students of a certain race not achieving in mathematics versus students from other groups).

26. I gather information about my students' families (e.g., customs, languages spoken, cultural traditions).

27. I consider students' culture and language when I select assessment tools.

28. I know where to find information about culturally and contextually relevant academic practices.

29. I know where to find information about culturally and contextually relevant behavior management practices.

30. I seek professional development opportunities (e.g., attend conferences, workshops, trainings) to learn about how to engage in culturally and contextually relevant practice.

31. I request the resources (e.g., time, staff, training) I need to implement culturally and contextually relevant instruction.

32. I request the resources (e.g., time, staff, training) I need to implement culturally and contextually relevant behavior support.

33. I request to meet with support personnel (e.g., instructional coaches, lead teachers, consultants) to help me consider cultural and contextual factors that might affect how I teach.

34. I request to meet with support personnel (e.g., instructional coaches, lead teachers, consultants) to help me consider cultural and contextual factors that might affect how I support students' behavior.

35. I meet with support personnel (e.g., instructional coaches, lead teachers, consultants) to help me to find evidence of disproportionality (e.g., racial, gender) in my classroom data.

36. I talk to administrators in my building about accessing the resources I need to provide culturally and contextually relevant academic supports.

37. I seek the resources (e.g., time, access, translators) I need to partner with families to support students.

38. I plan lessons that reflect students' interests.

39. My teaching materials reflect students' cultures (e.g., names in a math word problem, books by diverse authors).

40. I use research-based teaching strategies to support the different types of learners in my class.

41. I identify rewards for appropriate behavior that reflect my students' interests.

42. I rarely use reprimands (e.g., stern warnings, scolding) to maintain order in my classroom.

43. I review classroom behavioral data for trends that reflect disproportionality (e.g., students of a certain race sent to the office more than other student groups).

44. I read journal articles to learn about research-based interventions to support my students.

45. I talk to administrators in my building about accessing the resources I need to provide culturally and contextually relevant behavioral supports.

46. I assess how my students prefer to learn (e.g., individual or group-oriented activities, cooperative vs. competitive learning environments).

47. I consider the reason (i.e., function) for students' problem behavior when selecting a response strategy.

48. I rarely use exclusionary disciplinary practices (e.g., time out, referrals to the office) to maintain order in my classroom.