CLASSROOMS FOR RESILIENCE

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Abstract

This research project intends to explore the resilience in Ontario college and university students, and how the system of higher education may contribute to developing resilience. Resilience is the dynamic process of effectively managing and adapting to sources of stress, and can be developed at any point in life. Resilience can be a key factor for graduates to successfully navigate major changes in the world, especially in terms of working environments, economy, climate crises, and social polarity. While both colleges and universities aim their focus on enrolment targets and employability and skills-based outcomes, they are in some cases missing an opportunity to actively contribute to the resilience of students. Through primary research, this exploration will gather information with participants on how the higher education system can promote resilience in students using foresight tools such as causal layered analysis and 2x2 matrix. Following the Systemic Design Toolkit framework of problem framing, analyzing, synthesizing, and solving, this project will propose strategies to intervene in the system and promote resilience in graduates.

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Introduction

With a focus on enrolment and skills-based and employability outcomes, university and college programs have, in some cases, failed to prepare students to be resilient graduates who can adapt to the challenges of today s world (Smith, 2018). In Ontario, higher education has been structured based on funding that is primarily tied to enrolment targets, with a secondary regard for performance in their strategic mandates (Ministry of Colleges and Universities, 2015 & 2016). This funding model is expected to change in 2025, and is expected to be tied more closely to performance measures on student outcomes, such as employment, earnings, experiential learning, skills and competencies (Friesen, 2019).

By framing higher education around competition, productivity, private interest, and profit, these funding models reflect a neoliberal agenda (Rigas & Kuchapski, 2016). The effects of normalizing neoliberalism are experienced across higher education institutions, spanning from the credentials offered to curriculum requirements, audits, increased debt for students, heightened corporate culture on campuses, and a gradual erosion of social and academic freedom (Vander Kloet & Aspenlieder, 2013). The implications of this include focusing on professional development rather than pedagogy, without critical dialogue, critique, and ethical considerations (Giroux, 2012). Graduates are prepared to be responsible and marketable workers, while the work environments and economic conditions they face after graduation are increasingly precarious. A changing society further compounds these challenges, due to political, social, and climate tensions. Unquestionably, this is a time to

critique the agenda of institutions, as colleges and universities are missing some key elements of preparing students for their future realities.

Many solutions have been proposed as to how universities and colleges can better contribute to graduate success, and resilience interventions are among the most studied. Resilience can be developed based on the relationship between the individual and their environment, as a dynamic process of transaction. Numerous factors contribute to this dynamic process, and socio-cultural and physical environments and processes may either create risk or promote the positive growth of resilience (Kuldas & Foody, 2021).

While the higher education space can be considered for its many factors contributing to resilience in students, the classroom (or learning environment in particular) presents an opportunity that has been central in studies of resilience. It has been shown that the classroom environment can be adjusted to improve resilience growth. This could occur in a variety of ways, such as including case studies and field placements in the curriculum so students become accustomed to the challenges of a work environment. It could also occur by creating a safe environment for students to try and to fail, or by encouraging students to adopt coping strategies and self-care into their college or university experience, among other suggested interventions. By rooting teaching in humanity and resilience, students are better prepared for new economic realities and the changing world (Smith, 2018).

Resilience has become widely accepted as an important trait for students to develop, with higher education as a rich opportunity for resilience growth. However, the higher education system is not currently designed to support student needs such as resilience growth. Systemic barriers severely limit the adoption of resilience interventions among post-secondary institutions, and

involving stakeholder voices in intervention development and adoption is critical for higher education to be re-centred around student needs.

A systems approach offers a unique perspective to intervening in higher education and promoting resilience in graduates. This approach follows the framework of the Systemic Design Toolkit for problem framing, analyzing, synthesizing, and solving put forward by Jones & Van Ael (2022). Below I describe how student resilience will be framed within the system of higher education, identifying problems and barriers and proposing a strategy for change to intervene in the system and promote resilience in graduates.

Overview

Part 1: Framing the System

Framing the system of higher education takes two parts, to understand resilience and its contributions to graduate success, and to understand the actors and motivations within higher education. A literature review will explore resilience precursors, implications of resilience for college students, and proposed interventions. Through the use of a horizon scan, an understanding of current signals and trends relating to education will be pertinent for resilience intervention strategies. Finally, an actor s map will provide a systems understanding of the key stakeholders involved in the system of higher education and their relative position to the student. This will frame the boundaries of the system as it relates to student resilience.

Part 2: Listening to the System

Once the boundaries of the system are framed, it can then be analyzed for problem areas and opportunities for change. This will include conducting a causal layered analysis looking at the systemic structures, motivations and worldviews

that hold up the system as it currently operates. Data gathered during the causal layered analysis will be analyzed using a problematique influence map to provide insights into the relationships, influences, and barriers in the system, and set the stage for designing intervention strategies.

Part 3: Exploring the Possibility Space

Taking a foresight approach to exploring areas of opportunity for change in the system of higher education, alternative scenarios will be created. This will involve primary research in the form of a workshop, with participants from a cross-section of college administrators, faculty, and staff. The scenario development will involve participants using their experience and knowledge to explore possible futures for resilience in higher education. This research will help to gain understanding on viable futures of institutions as environments for resilience growth.

Part 4: Strategic Change

Findings identified from previous steps will be translated into potential opportunities for intervention using an influence map. Feedback from stakeholders during the scenario workshop will be critical when considering an intervention strategy in this step. Finally, a roadmap for implementation of these changes will be created. This will include practical strategies for implementation and integration, which is an important element of influencing change in the system.

Scope and Limitations

This project takes the perspective of the student researcher, whose professional background is in higher education at the college level. The inquiries of this project and the knowledge base of higher education is largely driven by

the information this background affords. While I have tried not to extrapolate my experiences to assume the experiences of other colleges and universities, I acknowledge the natural tendency to do so. It is my hope that my professional background has driven this project to a more beneficial place than it otherwise would have been.

The research participants were recruited from the same institution as the student researcher, which is Fanshawe College. This was due to their proximity to the student researcher, as well as their knowledge of resilience within higher education. Participants from Western University were also recruited to represent the university perspective, but were unable to attend the workshop. Data gathered during the workshop was therefore limited to the college perspective.

PART 1:
Framing the System

Before we begin to analyze higher education, we must first understand resilience and its impact on students. What is resilience? How does it contribute to student success? What does this have to do with higher education? These questions are addressed in a literature review of resilience in the current body of research. With this understanding, we then frame the system of higher education, to provide a baseline understanding about the subject matter, its social and political context, and the actors and influencing relationships at play within the system.

Literature Review

Understanding Resilience

Resilience is a trait that refers to how an individual is able to adapt to new and challenging circumstances and overcome adversities while maintaining stability within themselves. It is the ability to bounce back in the face of adversity, recover easily and quickly from misfortune and illness, or be exposed to high risk factors that most often lead to negative outcomes, but obtaining positive or neutral outcomes instead (Windle, 2011). Although there is no universally accepted definition of resilience among researchers, leading definitions fall into two broad categories: resilience as either a personality trait, or a dynamic process (Windle, 2011). Authors who define resilience as a personality trait argue that resilience is inherent, cannot be improved upon, and is impervious to external factors (Windle, 2011). Conversely, the dynamic process is concerned solely with

the environmental factors that promote protective factors and minimize risk (Rutter, 2012).

More recent developments in understanding resilience favour a combination of the two definitions. According to Windle (2011, p. 152), resilience is, the dynamic process of effectively negotiating, adapting to, or managing significant sources of stress or trauma." For the purposes of this project, resilience can be understood as a continuous transaction between trait and dynamic processes that align to produce resilience in individuals. Known as transactional resilience", it is formed by individual inherent characteristics, such as character or personality traits, which engage with external characteristics of the individual s environment (Kuldas and Foody, 2021). Transactional resilience, therefore, depends on intrinsic and extrinsic characteristics, and the transaction of these characteristics with the environment.

To understand the factors which interact to form resilience, first the nature of intrinsic and extrinsic characteristics must be examined. Intrinsic characteristics of resilience could include what are typically thought of as hero" characteristics, such as the ability to cope, remain steadfast, invulnerable, and stress-resilient in adverse circumstances, to have self-compassion, and to appear to thrive in spite of difficult circumstances. In a 2018 study by Holdsworth, Turner and Scott-Young, even factors such as maintaining perspective and staying healthy were identified as key attributes linked to resilience.

Extrinsic characteristics of resilience refer to the socio-ecological context of the actor at the individual, social, and community or society levels (Windle, 2011). At the individual level, this may include a person's own biological and genetic factors, temperament, motivations, and behaviours. At the social level, factors that facilitate resilience could be the immediate family and guardian context,

social connections such as friends, influencers such as teachers and coaches, and extended family members. The community and society context include broader social networks, workplaces, institutions such as schools and churches, and the particular cultural and political setting. Extrinsic characteristics also include the resources and assets available to an individual during a time of adversity.

According to Kuldas and Foody (2021), when individuals are able to access and apply both intrinsic and extrinsic features of resilience, they can be resilient in a given circumstance. Consequently, resilience can neither be static, nor inherent, nor is it a single personality trait or coping style, but rather something that changes over time depending on the individual characteristics, resources, and environment available to the individual, and the transactions among them. It can also be learned at any age, based on the reciprocal relationships between individuals and their environments (Gillespie et al., 2007).

The variation of intrinsic characteristics, external factors and resources, and the socio-ecological context could cause a multiplicity of outcomes in a particular individual s resilience. For example, a loss of social relationships caused by moving to a different city could impact an individual s ability to cope with a difficult health-related diagnosis. Conversely, when an individual gains stable housing, they may be able to cope better with the death of a family member even if they do not have much social capital or if they face barriers attributed to identifying with a minority group. Access to certain factors, such as stable housing, vary in their ability to affect the resilience outcomes of an individual, and even vary according to the individual. As a result, the intersections of intrinsic and extrinsic factors are, in some ways, unpredictable.

Environments for Resilience

With a transactional understanding of resilience, it is necessary to expand any analysis or strategy for intervention to include socio-cultural and physical environments, as well as processes that either create risk or promote resilience (Kuldas and Foody, 2021). Transactional resilience is a context-dependent process, consisting of interdependent factors; therefore, the corresponding population, context, and risk factors must be considered to allow for a full view of resilience. Although the type of analysis proposed here is not necessarily predictive of resilience outcomes, an expanded awareness of those resilience-promoting factors can help in building environments that promote resilience.

Systems theory can be used to understand the interrelationships between people and their surroundings in a socio-ecological approach to transactional resilience (Stokols et al., 2013). In framing the system, Ungar s (2011) four principles form a framework to aid in interpreting the socio-ecological environments where resilience is promoted. Through Ungar s first principle, he determines that you should decentralize from a sole focus on intrinsic traits only, to examine both intrinsic and extrinsic factors that contribute to resilience in a transactional state. Individual resilience must be interpreted within the larger system dynamics and influencing relationships to be fully understood.

Secondly, social ecologies are complex systems, and cannot be approached as otherwise. As a complex human-environment system, there is a multidimensional structure, from their physical components to the social, subjective qualities, and the proximity of these environments to individuals (Stokols et al., 2013). Consequently, an individual social ecology cannot be generalized from person to person or across populations. Those protective factors

or coping processes that promote resilience in one individual may not be assumed to be successful for another.

Further, Ungar s (2011) third principle holds that atypical pathways to resilience may be beneficial to some individuals, even if they are not processes that would be beneficial to promote across a wide population. The individual may adapt to a system when resources are scarce, and this requires a deep understanding of the individual socio-ecological system. Finally, processes of resilience under stress are both culturally and temporally embedded. The system changes constantly as the individual s intrinsic and extrinsic factors are dynamic, and should be approached as dynamic rather than static.

Guided by these principles, environments designed to enhance resilience can be approached by facilitating aspects and attributes of resilience at the individual level. Although intrinsic and extrinsic characteristics of resilience are cumulative, some key aspects are consistently present. These are the presence and perception of adversity; intrapersonal aspects such as realistic optimism, realistic worldview, self-efficacy, hope, coping skills, and interpersonal resources within and outside the family (Kuldas and Foody, 2020; Gillespie et al., 2007). Windle (2011) further described the presence of assets or resources to offset the effects of adversity, and the positive adaptation to or avoidance of a negative outcome.

A multifactorial approach to transactional resilience does not lend itself to linear or scaffolding growth of resilience in a particular environment. Rather than adding and measuring the effect of each individual factor, the cumulative, interdependent effect of multiple factors is emphasized. Resilience is a multi-determined and ever-changing state, capacity, and outcome of transactional forces within a given ecosystemic context" (Waller, 2001, p. 290). As a result, any

approach to building an environment to promote resilience should be based on resources that align with the Ungar s principles (2011).

The contextual consequences of resilience are successful integration in a social or cultural context, the development of personal control, psychological adjustment, and personal growth (Gillespie et al., 2007). In an educational setting, students could graduate more prepared to be resilient in their lives, both professionally and personally. Additionally, Kuldas and Foody (2021) described how transactional resilience is bidirectional (or transactional), meaning not only the individual experiences resilience, but their resilience actually transforms their environment. The student who develops resilience through the classroom could transfer that resilience to their personal lives, which could in turn, affect the environment they live in. In this way, transactional resilience not only affects the individual, but has the potential to transform entire communities. While not directly transferable, resilience developed by an individual has effects that can be experienced by others. This understanding forms the basis for this project s analysis of resilience as a contributor to graduate success, and the exploration of resilience development in the college and university learning environment.

Resilience in Post-Secondary Students

The college and university experience is a stressful chapter of life, when resilience is both employed and developed depending on the individual factors available. Transitions from secondary to post-secondary education and from post-secondary education to the workforce are widely accepted as fraught experiences. Managing low levels of anxiety, punctuated by periods of intense stress, is something students face throughout their studies (Holdsworth, Turner & Scott-Young, 2018). Additionally, post-secondary education settings are relatively controlled environments where students have the opportunity to develop

resilience prior to joining the workforce and experiencing the daily pressures of work in the current climate. For these reasons, colleges and universities are increasingly incorporating resilience-building into their academic and student experience goals. Institutions also benefit from resilience outcomes such as improved learning experiences, increased graduation success rates (and therefore student retention), and the overall greater ability for students to adapt to challenges.

At the same time, colleges and universities are commonly criticized for coddling students, making too many allowances and accommodations for students rather than preparing them for the pressures they will face upon graduation. Critics argue that the post-secondary experience is too far removed from the real world" to develop the resilience students will require once they enter the workforce. Furthermore, although higher education is expected to prepare graduates for chaotic workforces, traditional teaching practices do not develop the resilience required for these types of situations (Goertzen & Whitaker, 2015). By building resilience into learning outcomes, common approaches believe that students will feel empowered to overcome challenges in the workplace, and the stresses that are involved with interpersonal relationships, conflict, and challenging situations.

With an understanding of the socio-ecological environment where resilience is promoted, as well as attributes of resilience that must be present, the learning environment can be considered for its potential as a contributor to resilience in students. Although the specific attributes of the learning environment and resources available differ depending on the context and individuals involved, the environment itself can be approached as a space where resilience may grow.

Holdsworth, Turner, and Scott-Young (2018) examined students reflecting on their experiences of resilience-building in university settings. The researchers identified three core factors for resilience reported in an academic setting: the environment where learning occurs, curriculum construction and delivery, and the relationship between the student and the educator. The environment where learning occurs can include both the classroom environment and activities and the larger institutional community, such as on-campus support services, and clubs and other social groups. Curriculum construction and delivery is also considered important for resilience development through the use of approaches such as experiential learning, feedback processes, diversity of perspectives, and group activities. Additionally, the relationship between the student and the educator was foundational to resilience development in post-secondary learning. Researchers have previously identified that trust helps to build student confidence, and that students benefit from, clear, empathic, face-to-face communication" (Holdsworth, Turner, & Scott-Young, 2018). Although there are numerous ways in which universities and colleges affect the development of resilience in students, these core factors are typically involved as areas of opportunity.

Holdsworth, Turner, and Scott-Young (2018) also identified core attributes of resilience self-reported by students. These include the development of perspective, the importance of maintaining physical and mental health, and receiving support from peers, friends, and family. These attributes are consistent with our understanding of transactional resilience wherein intrinsic and extrinsic factors combine and interact to develop resilience in an individual. Within a traditional academic setting, these attributes could present in multiple areas and in multiple ways. The student life and student success services offered by

institutions often intersect to develop resources in the form of diverse perspectives, health support services, and social networks. Because there is often a controlled environment within college and university settings, these assets can be controlled as well.

Proposed Interventions

There have been several intervention approaches to resilience development have been proposed and studied within higher education. In a literature review, Brewer et al. (2019) identified three focus areas into which reliance-building interventions can be broadly categorized. These include the individual managing their thoughts and feelings, interpersonal resources and strategies, and contextual resources.

Approaches to managing individual thoughts and feelings include various coping strategies, self-efficacy teaching, self-confidence and self-esteem, and emotional intelligence, among others (Brewer et al., 2019). These approaches are popular among researchers, and also include self-care activities such as mindfulness, yoga, and recreational activities. Interpersonal resources and strategies have been approached through efforts to intervene with conflict management and team-building skills. Finally, the third category broadly focuses on contextual resources with a strong emphasis on increasing social support (Brewer et al., 2019). Interventions range from positive role modelling and facilitating social connections to ensuring students feel valued and supported to try and fail, as well as online communication practices, and allowing time for personal and health activities within schedules.

Significant limitations in the field of resilience research have hampered the adoption of these concepts into learning environment design. The field of resilience research is quite varied, and has leaned heavily toward developmental

psychology. Much of the research has focused on childhood and adolescence and health sciences, leaving a gap in the research on the dynamics of resilience across the lifespan, as well as the effects of resilience growth later in life. Further research is also needed on student demographics and contexts, and the impact of environmental strategies (Brewer et al., 2019).

Additionally, because there is no universally accepted definition of resilience, the measurement of resilience is not a standardized procedure. This contributes to mixed results on the success of intervention strategies, with little research on opportunities that affect the processes and environments that encourage resilience growth, particularly as related to college and university classrooms. Therefore, it is challenging for colleges and universities to apply intervention strategies in a cohesive, strategic manner. There is also a critical need to include stakeholder voices such as students, faculty, and academic leaders in the design process.

A human centered design process is essential to offer unique insights into learning environments that are invaluable to research in resilience-building environments. The horizon scan will begin this design process, providing an overview of the higher education system as it currently sits.

Horizon Scan

With this context in mind, it is beneficial to conduct a horizon scan of the external environment that can help to plan for the future (Choo, 1999). A horizon scan will contribute an understanding of current signals and trends relating to education and the changing workforce which will be pertinent for resilience intervention strategies. The horizon scan is a useful method of foresighting which gathers current events, dialogue, concerns, issues, and occurrences that are

signals of change related to higher education. The signals are sorted into categories of society, technology, economy, environment, politics and regulation, and values, to ensure range and variety. These signals are then grouped into larger trends, and provide a necessary grounding in what is currently happening that indicates change in education and the workforce.

The higher education system in Ontario is rooted in classical models of education with elitist and meritocratic ideas of academia, and in the latter half of the twentieth century neoliberalist ideas resulted in the birth of multiple colleges and universities in Ontario. From the funding processes to the ROI measurements, higher education has been increasingly tied to labour market outcomes, becoming a sort of pipeline for students from secondary education into the workforce.

For decades, colleges and universities in Ontario have enjoyed fairly stable and even profitable outcomes. However, recent years have seen a demographic shift with fewer high school students, resulting in lower domestic enrolment. As well, the economic context has been declining, with challenges in the housing shortage, increasing poverty, and the economic challenges and changes brought on by the COVID-19 pandemic. Among others, these factors combine to pose significant challenges for higher education in Ontario, and it is important to note that these public sector institutions have not been traditionally adept at adaptability, risk-taking, or innovation. The coming years will be telling as to how higher education institutions are able to adapt to changing circumstances and the changing needs of students, or not.

While there are many trends in higher education, these specific trends were included based on the criteria that they reflect system-wide trends in Ontario higher education, and that they have clear potential to affect the

resilience growth of students. The aforementioned criteria ground the horizon scan in terms of scope and relevance to our topic.

Society Trends

- Racism in Canadian universities has a deeply rooted past and continues to present itself in a lack of leadership and faculty diversity, as well as the poor treatment of international students in some cases (Wall-Andrews & Lightwala, 2022; Garowe Online, 2020, and; Goodman, 2022).
- Students face increased mental health needs, especially following the COVID-19 pandemic, prompting post-secondary institutions to hire further the support students need (Ma, Blesha & Wall, 2022; Colarossi, 2022; Yadav, 2022; Whitehead, 2022; American Psychological Association, 2020).

Technology

- Online learning has greatly shaped education in recent years, providing the opportunity to raise the standard for online learning, while also posing fatigue and mental health challenges for students adapting to these changes (Tamm, 2023; Newton, 2022; Child, et al., 2022; Marcus, 2022; Alhmidi, 2022; Government of Saskatchewan, n.d.).
- New and creative classroom technologies are being adopted into schools such as virtual reality, augmented reality and artificial intelligence. These technologies affect teaching, learning, and assessment, providing new hands-on learning experiences, distance learning adaptations, and classroom interactions. For example, AI can be used to track student progress and provide personalized learning opportunities based on this information. (Brasca, et al., 2022; OnPassive, 2021; Marr, 2021; Liu, 2020; Herman, 2022).

Economy

- With public education funding decreasing, an increasingly important question is whether postsecondary graduates are prepared for the workforce. In Ontario, higher education does not appear to address the gap between education and job readiness (Fung, 2022; Weingarten, 2021; Gismondi, 2021).
- It is increasingly common for adult learners to enter colleges and universities to upskill or change career direction, contributing to enrolment numbers and resulting in new schools and buildings in the Ontario college system (York University, 2020; Farrington, 2022; BizWest, 2022; Crews, 2022; Post University, 2020; Walker, 2022).

Environment

- Climate change and climate anxiety take a toll on student mental health, and schools have not yet caught up to this experience with the necessary support (Will, 2022; Aschaiek, 2022).

Politics and Regulation

- Funding for Ontario colleges and universities is falling behind the global average, causing them to rely on international student tuition and private revenue models, which further affects the quality of education for students (Peters, 2021; Usher, 2021; Brennan, et al., 2021; Friesen, 2020; Goel, 2022).
- Labour disputes and worker strikes are increasing, and Ontario's most recent education worker labour dispute shows this trend continues in Ontario. This highlights some class disparities in the education sector as well as a push from the government to avoid labour disruptions (u/agaric,

2022; Singh, 2022; The Canadian Press, 2022; Dunn, 2022; Sharp, 2022; Hébert, 2022; Ross, et al., 2022).

Values

- Hybrid work is a signal of an increased cry for flexibility in the workforce, largely due to the disruptions of the pandemic (Afshar, 2020; Bogost, 2022; Hilberath et al., 2020; UN News, 2023).

Actors in the Higher Education System

To frame the boundaries of the system of higher education, the actors present in the system are identified at various levels of influence. Understanding the roles and positions actors hold in higher education sheds light on the structures of institutional education in the Ontario post-secondary sector, as well as the processes around resilience growth.

I chose to use an Actor's Map to create a picture of the current higher education system in Ontario. The Actor's Map visualizes the positions of actors relative to each other in the social system structures, and helps to reveal the power relations therein (Jones & Van Ael, 2022). Based on my knowledge of the system, information gained from school websites about services offered, as well as research on institutional areas that affect resilience (Holdsworth, Turner, & Scott-Young, 2018), I plotted the actors relative to the student or user at the centre. I placed the student at the centre because student resilience growth is central to our topic. The other actors were positioned in increasingly further levels from the student. These levels include the institution, society, and outermost ecosystem, which show the nature of the relationships of the actors with the student.

Additionally, I wanted to assess the actors' influence within the higher education system. I plotted the actors on variables of knowledge and power, based on my assumption of their knowledge of the higher education system, and their power to intervene in resilience growth in the current system. Those actors with high power and high knowledge may then be further analyzed as potential stakeholders that could influence change in the system.

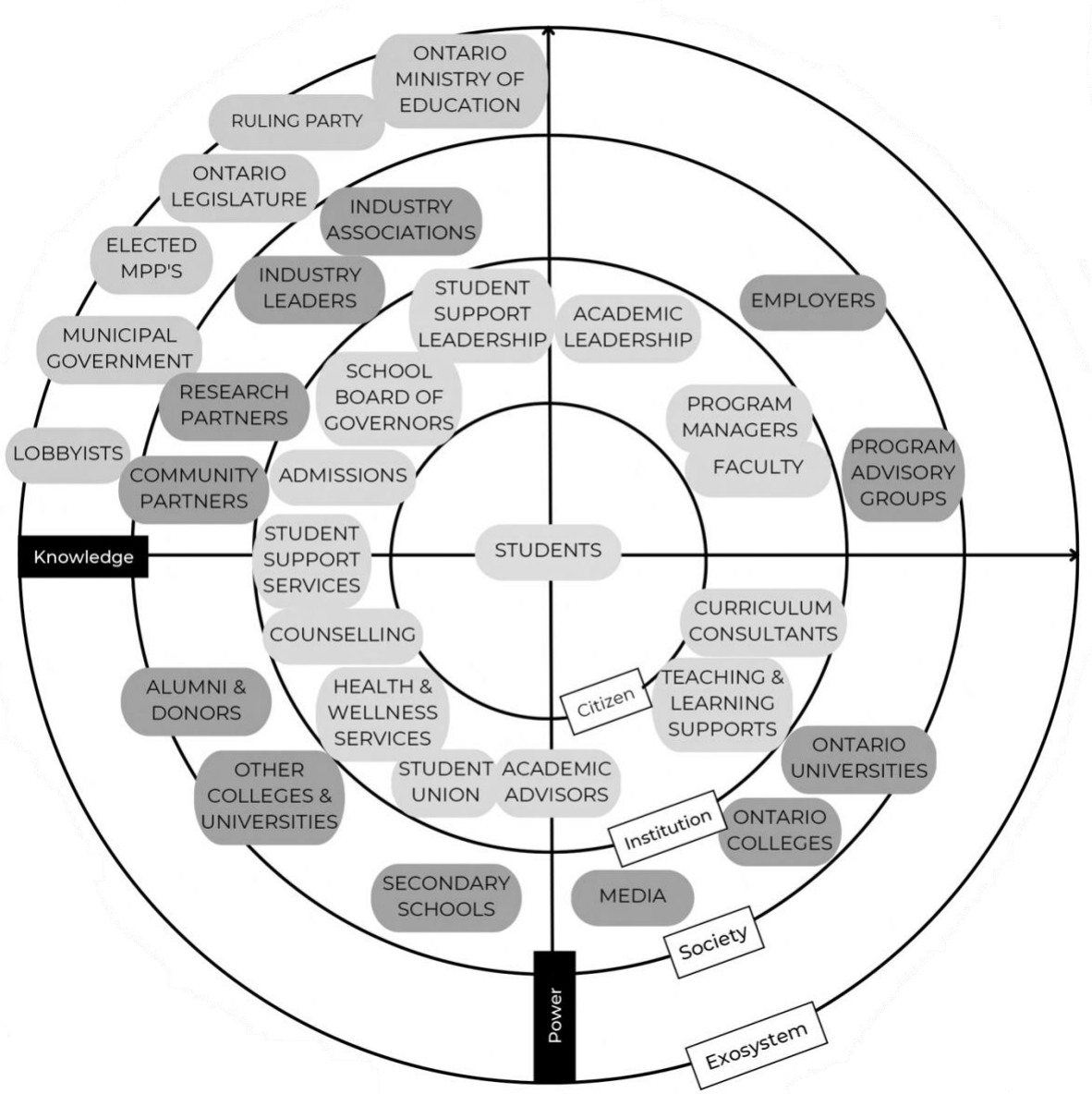

Figure 1: Actor's Map

The Actor's Map shows the student at the centre of the higher education system, surrounded by a network of actors affecting their potential for resilience

growth. In the top right-hand quadrant, employers, program advisory groups, faculty, program managers, and academic leadership have the most influence in this system, to affect change in areas of resilience growth. This group of actors has access to information on resilience growth, and sees first-hand how resilience develops in students and impacts their success. This group also has the power to impact the resilience growth in students, with direct influence over the curriculum, courses, and learning outcomes. Adjacent to these actors are student support leadership, curriculum consultants and teaching and learning supports. These actors all play a supporting role in the knowledge development of faculty and program managers as they influence resilience growth.

Relative to other actors, these positive actors have limited influence. The Ministry of Education and Ontario Legislature have significant power in the system, with relatively low knowledge. This map displays how Ontario college and university students exist within a structured system of higher education in the public sector. This system has tightly controlled, pre-existing goals and objectives that meet the demands of multiple stakeholders, including students. However, if the goals and objectives of the institutions were aligned with the conditions for resilience growth in students, this system could be more beneficial to the student's resilience outcomes.

This picture of the higher education system, its actors, and influences brings up questions about the tensions and potential conflicts in the higher education system. A deeper understanding of the problem areas is needed to source opportunities for resilience growth in the system.

PART 2:
Listening to the System

Having framed the higher education system, we now listen for a deeper understanding of the complexity of the system, and its core issues and behaviours. What systems and structures uphold the system? What underlying beliefs motivate the problem areas? Which actors and stakeholders have influence in this system? What are the key challenges or barriers in the system?

Causal Layered Analysis

The Causal Layered Analysis is a generative tool that poses research questions and trends using the visual metaphor of an iceberg. Based on the literature review, horizon scan, and system framing, I developed inquiries that dig into the root causes of the barriers in the system. Inquiries were generated at four levels of increasing depth, from surface to worldview, and provide observations on the issues and concerns of stakeholders in this system.

On the surface of the iceberg, the problem area observed in higher education is that by focusing on enrolment, skills and employability outcomes, students are in some cases not prepared to be resilient graduates. Smith (2018) discussed how colleges and universities are almost always measured based on enrolment, graduation rate, and employability rate of their graduates. While years spent in college and university are beneficial opportunities to develop resilience, this student need is not reflected in learning outcomes or indicators of organizational success. The implications of this are a focus on professional development rather than pedagogy, without critical dialogue, critique, and

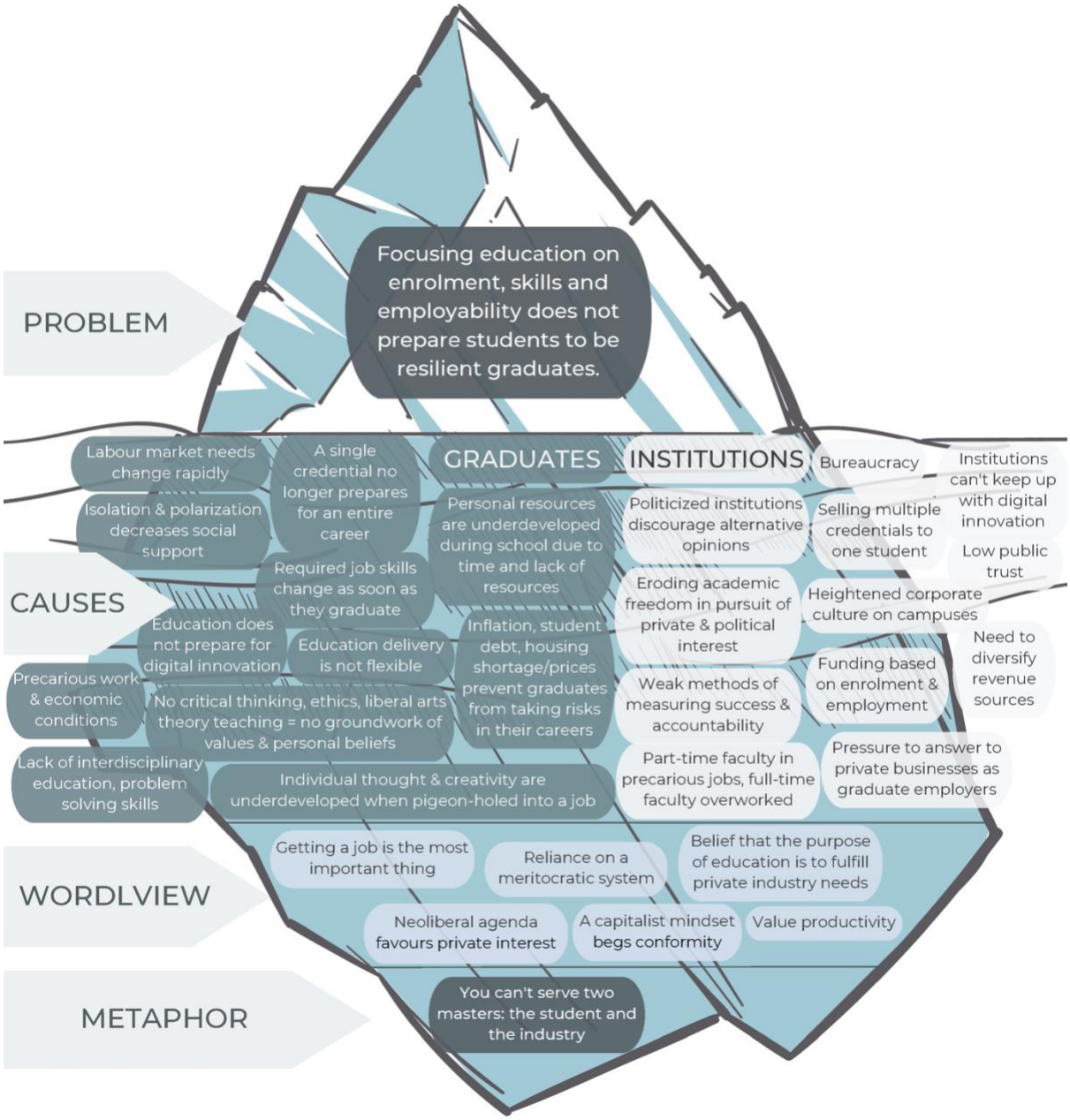

Figure 2: Causal Layered Analysis

ethical considerations (Giroux, 2012). As graduates face increasingly precarious work environments and economic conditions, as well as a changing society due to political, social, and climate tensions, it is becoming clear that colleges and universities are missing some key elements of preparing students for their future realities.

Below the surface of the iceberg, I observed the causes of the problem area. What systems sustain this problem? What are the contributing factors? For graduates, labour market needs change rapidly, and new skills and learning are required almost immediately upon graduation. Graduates are not typically prepared for digital innovation required in the workplace, and the education received lacks interdisciplinary work, problem solving, individual thought and creativity. Without critical thinking, ethics, or liberal arts theory teaching outside of humanities and arts fields, there is no groundwork developed of values and personal beliefs. Furthermore, during college and university studies, some key extrinsic factors for resilience are underdeveloped. For example, time with family and friends, opportunity to create connections with faculty and mentors, personal health and wellness, and a need for flexible learning options. These factors contribute to the problem of graduates not being prepared to be resilient upon graduation.

For institutions, one of the major underlying causes of the problem area are funding policies that are based on enrolment, employment and job skills. These policies are reinforced by methods of measuring success that lack consistency and relevancy for colleges and universities to make data-driven decisions. Further to this, institutions have become large bureaucracies that are not nimble or responsive to student needs and market changes, and they have trouble keeping up with digital innovations of the day. They are heavily influenced by private businesses in a heightened corporate culture on campuses, and increasingly politicized by leading parties and ideologies. These factors have contributed to both a lack of resilient graduates, as well as a decreasing societal trust in institutions.

There are several key worldviews or paradigms that feed the underlying causes to the problem area. This system-wide fixation on employability reinforces the status quo of neoliberal thinking in government circles (Smith, 2018), built on the idea that students are investments in the workforce. In Canadian society, it is widely believed that the purpose of education is to fulfill economic needs, and it is the job of policymakers to ensure there are enough graduates to fill each necessary job (Skuterud, 2023). Getting a job is naturally of utmost importance in this society, where productivity is so valued, and productivity is the success metric of a meritocratic system relying on higher education to fulfill primarily economic needs. Consequently, there is a tension in the system between the methodical and mechanistic function of higher education to produce workers, and the dynamic, individual needs of the student to develop the resilience required to successfully navigate the world.

This has occurred in both colleges and universities in Ontario, though in different ways. While colleges have more overtly become tied to labour market outcomes that fulfil neoliberal ideals, universities have experienced a more nuanced tension between neoliberalism and their liberalism roots. Historically, universities have found value outside of the economic marketplace, in a traditional view of education. Liberal education models sought, “to cultivate a society of individuals equipped with faculties for making moral choices and living meaningful lives.” (Bulaitis, 2020, p. 8). With the introduction of neoliberalism into government policies in the last century, students have been reconfigured in economic terms, which poses questions as to the value of education (Bulaitis, 2020).

Some academic fields are more affected by economic marketization than others, such as professional fields of business or engineering, with defined returns

on investment in their education. On the other hand, the humanities and the arts stand as pillars of liberalism among the others. The value of humanities and the arts cannot be economized, and stand apart from the neoliberal agenda. There is continual debate and criticism of their value in current neoliberal contexts, causing tension and fear of being removed, but have so far withstood such criticism. The humanities and liberal arts continue to offer value outside of economic value, such as in social, ethical, and moral values (Bulaitis, 2020). Consequently, the tension between the neoliberal agenda is present even within education, between a more traditional liberal view of the value of education and the economization of students.

While we can see how the neoliberal agenda does not prepare students to be resilient graduates, it is important to also understand the relationships, influences, and barriers in the system. How does this tension play out in the functionality of the system?

Influence Drivers

Aiming to understand the influential drivers in the system, I drew learnings from the Actor's Map and Causal Layered Analysis to create an influence drivers map. The Christakis method of problematique builds a network of influences, outputs and outcomes from the bottom-up, as depicted in the *Design Journeys through Complex Systems* toolkit (Jones & Van Ael, 2022; Christakis & Kakoulaki, 2021). This method of influence mapping analyzes the system's deepest influences and activity outputs, showing how the tensions learned from the Causal Layered Analysis are driven by the system.

Beginning at the bottom of the map, important relationships in the system of higher education are between government and private industry, and

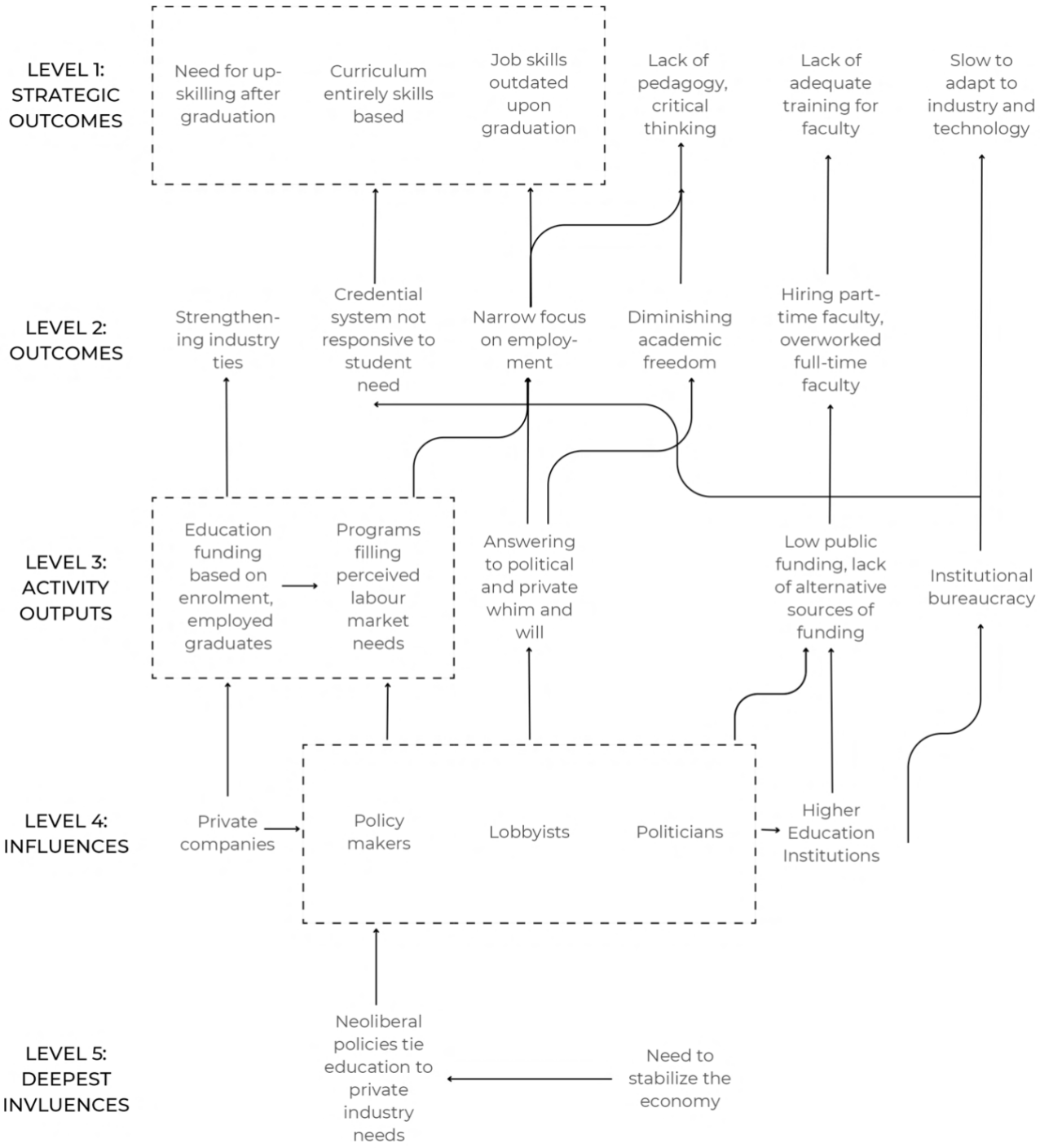

Figure 3: Influence Drivers Map

government and higher education. The government is strategically positioned as both a gatekeeper of education funding, and an overseer of programs and credentials that dictate economic outcomes in the labour market. For this reason, they are also pulled toward the desires of private industries. To some extent, the

Canadian public trusts the policymakers, governing bodies, and politicians to balance these relationships.

Moving upward on the map, these relationships have great influence on the outputs and outcomes of the system. They are driven by a deep need to stabilize the economy, which contributes largely to neoliberal policies that tie education to private industry needs. The primary way these relationships influence the system is through funding models. For example, funding for education is based on results of enrolment and employed graduates. This supports the view that educational programs fulfill perceived labour market needs. At the same time, the relationships and funding influence the increased politicization of institutions responding to political and private industry whim and will. Consequently, Ontario has a credential system that is not responsive to student needs and is narrowly focused on employment.

Low public funding for education also causes institutions to seek alternative sources of funding, diverting priorities to other areas of business. As well, institutions have to rely on part-time faculty, and overworking full-time faculty, in some instances. This can affect the adequate training for faculty to affect student outcomes in resilience growth.

A primary barrier observed in this system can be traced to the government's position between private industry needs and influence over higher education outcomes. This is a paradigmatic barrier in that it is driven by public trust that the government can and will stabilize the economy, through higher education. Secondly, the funding model is problematic because it does not position institutions to be responsive to student needs, or allow for significant diversity in educational outcomes. Institutional bureaucracy also presents a

barrier that contributes to this problem area. What place does resilience growth have in the system of higher education, when faced with these barriers?

PART 3:
Exploring the Possibility Space

How can these tensions and barriers be addressed? How might the future of higher education shift from a neoliberal agenda to something new? Exploring new futures for higher education requires a foresight approach, since higher education is a well-established system which is deeply embedded in society. A foresight approach helps us to set aside our preconceived notions of a particular system, so that we can explore new possibilities for change.

Using foresight to understand the possibilities of the future can inform and guide strategy, forward thinking, strategic analysis, and priority setting. Applying futures thinking to a foresight approach involves seeking "to help individuals and organizations better understand the processes of change so that wiser preferred futures can be created" (p. 6, Inayatullah, 2008). While futures thinking is not predictive, it is possible to guide system change toward a preferred future outcome. Futures thinking can create capacity for change within a system, making room for the emergence of a new future (Inayatullah, 2008). Understanding the possibilities of the future based on an intentional perspective can open up new strategies for system changes, and helps to create the conditions for a paradigm shift in higher education.

Alternative Scenarios

One of the goals of futures thinking is to challenge assumptions of the predicted or feared future, by creating hypothetical alternative futures. Alternative futures are a pillar of futures thinking, offering a deep understanding of possible futures that go beyond normative expectations (Inayatullah, 2008). Since higher education is deeply entrenched in Canadian society, alternative futures are beneficial to this project in deliberately challenging beliefs and paradigms that are part of everyday life.

The method of alternative futures selected for this project is scenario development in the double variable method, otherwise known as the two-by-two matrix. This method was selected because the higher education system is a known entity, and can be analyzed based on relevant factors. To begin exploring the possible futures of resilience growth in higher education, a framework for each scenario was developed. I selected two major uncertainties with high impact on the system at hand, which would greatly affect the narrative of the scenarios. The scenarios were then described based on these polarities, and aim to offer surprising and divergent accounts of how the futures may unfold.

Economic Growth Variable

The first uncertainty variable selected was economic growth. Economic growth was chosen because the economy is intertwined with education, and has a high impact on the system. Higher education is widely perceived as a solution to an economic problem, as we observed in the Causal Layered Analysis and Influence Driver Map. For this reason, the Ministry of Education approves or denies college and university programs and requires some quality assurance that the programs meet labour market needs. Consequently, post-secondary

education produces workers that fill each necessary job. Colleges in particular are narrowly focused on job skills, workplace readiness, and employable graduates. They are also pressured by employers to produce graduates quickly to fill needs in their communities. In this context, it's difficult to imagine separating education from its economic function.

Secondly, economic growth and decline have a significant impact on enrolment in post-secondary education. During periods of high unemployment, post-secondary education typically sees more students enrolling to change career paths or become qualified for a new job. For others, there comes a point when post-secondary education is unaffordable, and class divides deepen as education becomes attainable only for those who can afford it. For this reason, institutions in Ontario toe the line between making education publicly accessible and affordable, as well as ensuring their own economic success. These factors are all dependent on the economic context.

Finally, public institutions in Ontario depend on funding from the Ministry of Education, which has largely fluctuated in recent years. This funding is also subject to economic factors. When governments change hands, the education funding model often changes as well. In 2016, the Ministry of Advanced Education and Skills Development announced a corridor funding model, capping tuition hikes to three per cent a year (Mathur, 2017). This model ensured that post-secondary institutions do not grow or decline enrolment by more than three per cent. For institutions that were declining in enrolment, this model helped keep them afloat. However, those that were growing had to limit their enrolment targets. This occurred alongside a shift in demographics of fewer eighteen-year-olds to twenty-one-year-olds outside of the Greater Toronto Area that resulted in a decline in enrolment during this period (Brown, 2014).

In 2019, the Ministry mandated that tuition fees would be cut by ten per cent, since at the time Ontario's tuition rates were the highest in the country (Ontario Newsroom, 2022; Rushowy, 2019). Ancillary student fees were made optional, and institutions were forced to diversify their revenue streams. This was a loss of $80 million for colleges and $360 million for universities (Rushowy, 2019). The following year in 2020, the Ministry froze tuition fees for colleges and universities, which continues to be extended each year until the present (Ontario Newsroom, 2022 & 2023). There has also been a new performance-based funding model announced, with metrics related to skills and jobs, and economic and community impact (Peters, 2021).

These funding models are driven by economic factors, and affect student resilience growth in a number of ways, from classroom sizes to the number of full-time faculty hired, and student services offered. This presents economic growth and decline as relevant, interesting variables for our scenarios that have a high impact on the system of higher education and the resilience growth of students within.

Trust in Institutions Variable

Trust in institutions was also selected for its high impact on the system. While trust in institutions varies from country to country, opinion surveys suggest that trust in public institutions has declined in recent decades, according to an article published by the UN Department of Economic and Social Security (Perry, 2021). Trust in institutions tends to give confidence to investors and consumers, helps address health crises, and contributes to the UN sustainable development goals. On the other hand, there is concern that low trust in institutions contributes to extreme political views, public discontent, protests, and violent conflict (Perry, 2021). While there are many economic and social factors that

contribute to trust in institutions, the two major contributors are economic insecurity and the perception of poor government performance (Perry, 2021).

According to the Edelman Canada Trust Report (2022), trust in Canadian institutions has been fluctuating during the COVID-19 pandemic, and has been increasing since then. In Canada, forty-seven per cent of respondents indicated they are worried about losing their freedoms as a citizen, and seventy-six per cent trusted their employers more than any other institution (Edelman, 2022). However, as the COVID-19 pandemic fades, trust in governments has stabilized somewhat. These fluctuations have a direct impact on regulations and the belief that governments will carry out mandates, and will make sound decisions on behalf of Canadians.

There is a growing awareness that trust is crucial to higher education, both in its functioning and in student outcomes (Tschannen-Moran, 2017). This is largely due to the core mission to educate students. Not only do parents trust institutions with the development of their students, but colleges and universities are also the beneficiaries of millions of dollars of taxpayer funds, and are entrusted to use these funds responsibly. Additionally, schools keep and promote society's shared values and ideals, fostering respect, tolerance and democracy, among other things (Tschannen-Moran, 2017). Not only this, but academia also plays an important role to move society's values and ideals forward, progressively advancing them in many ways. In an increasingly turbulent and rapidly changing world, trust in educational institutions is vital to the future of our society.

In order for academics to function this way within society, academic freedom must be protected. However, there is a tension between the protection of academic freedom and the role academics play to push the boundaries of society's values and ideals. Academic freedom is at times both essential to

maintaining public trust and threatening public trust. In Canada, there is an increasingly harsh response to expression of minority political opinions, in the form of political discrimination, dismissal campaigns, and self-censorship (Kauffman, 2021). This trend is intensified by a student body that is more likely to support authoritarian measures like dismissals of controversial professors, according to a 2021 study led by Eric Kauffman. The result is a political monoculture within higher education, where the political views and teachings do not represent those of the national population, and limits the intellectual climate (Kauffman, 2021). If academic freedom is not protected by the government, public trust in higher education is in grave danger.

In 2018, concerns were raised that university autonomy from the Canadian government has been increasingly shrinking since as early as 2012 (Eastman, 2018). According to University Affairs, “a great deal of decision-making authority formerly exercised by university bodies had been assumed by governments” (Eastman, 2018). At the provincial level of government, university behaviour is influenced through legislation, regulations, policy, mandate agreements, funding mechanisms, and performance incentives, among others. At the federal level, government relies on its spending power to influence university research and knowledge creation to contribute to its policy priorities (Eastman, et al., 2019). Since then, there have also been increased provincial legislation and mandates in universities, not to mention the federal and provincial government and agencies regulation and influence to shape activities on campuses. Maintaining autonomy is critical to gaining public trust for higher education, where leaders are trusted to educate and shape students regardless of political opinion.

Trust in higher education has a less visible, more subtle impact on the system than economic growth. However, when it comes to the value and

worldviews that hold up the system, as seen in the Causal Layered Analysis, public trust in institutions is a significant sustaining factor, a backbone that holds up higher education. For this reason, trust in institutions was selected as a critical variable in the alternative scenario development.

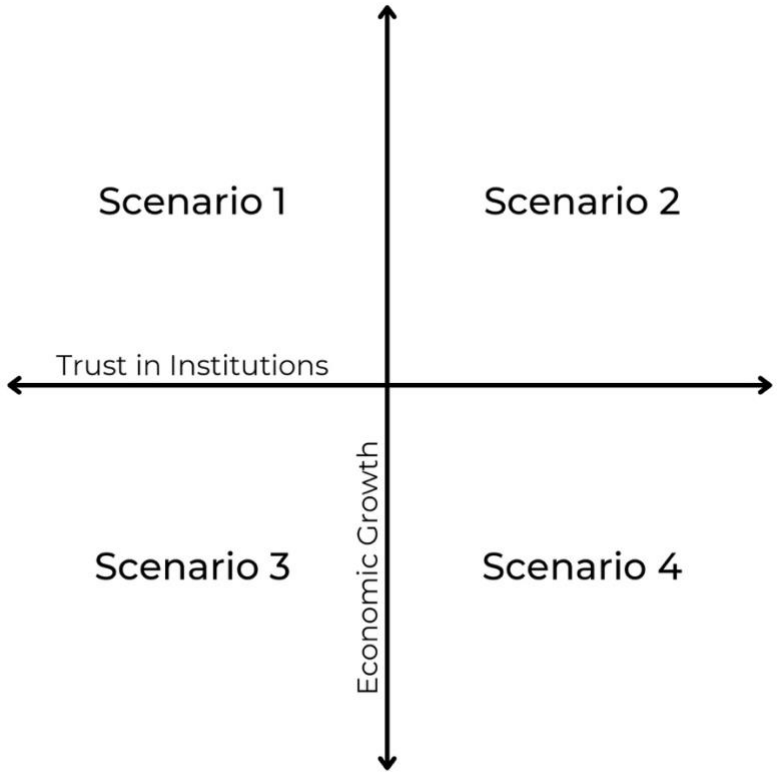

Figure 4: Alternative Scenarios 2x2 Matrix

Scenario Methodology

To develop trends for each scenario, primary research was conducted in the form of two workshops. It was important to involve stakeholders in the research, drawing on their knowledge and experiences in post-secondary education to explore possible futures for resilience in higher education. Participants were invited from a range of administrator, staff and faculty positions spanning both academic and student service areas within Fanshawe College and Western University in London, Ontario. Fifteen individuals from Fanshawe College agreed to participate. Invited participants from Western University were not able

to schedule the time to participate. Two students were also scheduled to participate, but had to decline. Thus, the scope of the project was limited to the college sector perspective, and specifically to Fanshawe College staff, faculty, and administrators.

Two workshops were held on January 24 and 25, 2023. During each workshop, participants were introduced to the topic of resilience and divided evenly into two groups for discussion and brainstorming. Each group was then tasked with ideating trends for a single scenario. They were encouraged to create trends according to the STEEPV (Science, Technology, Economic, Environmental, Political/Regulatory, Values) categories to ensure a breadth of detail for the scenario, within the context and timeline of the next ten years in Ontario, Canada. This resulted in a total of four individual, opposing scenarios, each with a number of trends. Because the workshops were limited to ninety minutes, the trends were briefly described, but the scenarios were not able to be developed in-depth.

Following the workshop, I analyzed the trends gathered for each scenario and expanded upon them into a full STEEPV analysis. This involved grouping the trends into the STEEPV categories, and combining similar. While each scenario was generated by a different workshop group, the voice and style of each scenario were aligned for continuity. Following the STEEPV analysis, I then created a summary of each scenario that pulled together all of the trends into a comprehensive overview.

The alternative scenarios picture possible futures of higher education along the variables of economic growth and trust in education, which provide a dynamic view of what system changes might occur. For the purposes of our discussion, it is important to also ask how student resilience is impacted in each of these scenarios. For instance, how is resilience being considered? How is

resilience growth impacted by the economic and trust factors? What are the decision factors that either include or prevent resilience?

We have seen through the Influence Drivers Map how the higher education system currently precludes resilience growth from being promoted at a large scale, and imagining how resilience may or may not be central to a scenario will be helpful for our discussion. For these reasons, I created potential strategies for resilience intervention for each scenario. These strategies are based on research included in the literature review on current strategies for resilience intervention in students, and draw connections to resilience within the alternative scenarios.

"The Bottom Line"

Economic Growth + Low Trust in Institutions

"One way that education can improve student resilience is by not being a barrier itself to students." – Workshop Participant

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In this scenario of low trust in institutions combined with economic growth, employment is the primary goal. Educational institutions have taken a back seat to employers and the private sector in general. Higher education functions as an entryway into employment, rather than a provider of personal development, knowledge and skills. As such, educational outcomes are solely beneficial in terms of employment, never education for the sake of education. Many of the barriers to education such as admissions and services have been resolved and improved as a matter of financial survival, but that does not help much. People increasingly look to the private sector as a source of knowledge, information, tools and credentials, and take pride in aligning themselves with the

reputations of certain companies rather than their academic achievements. This way of thinking places personal success at the centre of personal values.

Resilience development in this scenario of increased privatization takes place almost entirely in the workplace. There is high pressure on the individual to be in charge of their own success, which is largely dependent on their career and financial success. While failure is a widely accepted part of the innovation process, personal growth is nonetheless the responsibility of the individual. In turn, because employment and career success are the primary goals, growing resilience is a low priority in the workplace, and individuals are without an appropriate arena within which to develop.

Social Trends

Instead of placing trust in higher education, the public focuses on the job market. With a goal of gaining employment, higher education institutions are merely the pipeline to a job. Institutions align themselves closely with their communities and employers, in an effort to align with society's values. This will result in more work-integrated learning opportunities, a spirit of volunteerism, and support for employers. Consequently, employers have greatly influenced higher education offerings and outcomes.

Education is available with flexible learning options and is largely pragmatic with real life applications. Because revenue is focused away from institutions, a number of public/private partnerships have arisen in education. As well, institutions focus on the individual and their wellbeing, providing a wealth of support services personalized to each student and their individual needs.

Technology Trends

The delivery of education is in many ways tied to technology, and there is a general expectation of tech-integrated teaching and learning. Education is accessible everywhere online, from social media to subscription websites. However, technology is seen as a private sector trend; funding for technology and science research is entirely privately-funded, and any advancements are put forth by private companies.

Economy Trends

Credentials have low perceived currency in the public eye in this scenario. With waning dependence on higher education, the public blames institutions for being expensive. As a result, tuition costs are lowered while the government takes on more of the funding to keep public education running.

Environment Trends

There is a focus on climate action, continuing from the present day onward.

Politics & Regulatory Trends

Because institutions exist to funnel people into jobs in this scenario, higher education is highly regulated by the Ministry of Education, and in turn by lobby groups and the employers themselves. This has a high impact on educational outcomes, such as liberal arts and humanities being almost entirely shut down.

Compliance modes are being reassessed by the Ministry of Education on an ongoing basis, due to the complexity of technological integrations and the various influences institutions are answering to. However, this tends to be a slow and bureaucratic process, lagging far behind the advanced of technology led by the private sector and integrated into higher education. The Ministry simply cannot keep up, putting students at risk.

Values Trends

In this scenario, there is a trend toward society placing the individual at the centre of their personal values, believing that their personal satisfaction is the most important goal in life. This plays out in a variety of areas of life, from valuing personal success and career success to valuing privatization of many public sector offerings.

Within higher education, there is very employer and community aligned thinking for reputation and perceived value purposes. Students choose institutions which are closely aligned with the employers they would like to work with, and consider this a major factor in their college or university decision.

Resilience Intervention Strategies

Strategies that may intervene in the system and improve resilience outcomes are:

- Mentorship programs facilitated by higher education that take place in the workplace, allowing for personal growth of mentees benefiting from the experience and knowledge of their mentors.
- Institutions become a resource for private companies as corporate trainers, facilitating resilience development through realistic case studies, group exercises, and interpersonal strength training.

"The Student Creator"

Economic Growth + High Trust in Institutions

"Can institutions adapt quickly enough to be responsive to society needs?" – Workshop Participant Response

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Education flourishes in this scenario of high trust in institutions and economic growth. A competitive market forces institutions to become more

nimble and responsive to student needs, while enjoying a position of comfort as the trusted source of knowledge, skill, and credential for society. Critical thinking and ethics have returned to the forefront of education, without need for a neoliberal agenda demanding more employment and skills-based outcomes. As well, the government is supportive of innovation and enables colleges and universities to take risks and become adaptive in their approach to serving students.

Resilience development in this scenario is a priority. Prioritizing critical thinking and ethics contributes to students' ability to address challenges in their lives and display resilience. The focus on innovation and adaptation establishes a need to include resilience as an outcome in the curriculum, as a necessary trait in the innovation process. The student-central mentality of education delivery presents an opportunity for students to develop resilience by being adaptive to their needs and lifestyle, allowing access to interpersonal resources based on their own timetable, as well as access to services that promote student wellness.

Social Trends

New institutions sprout from increased funding opportunities, and there is a high degree of competition in the higher education space. The smaller, newer institutions are more specialized and responsive to students than older, larger colleges and universities. Consequently, greater transparency and improved service delivery options are demanded across the sector.

Due to competition, larger institutions become more adaptive and nimbler to student needs, or decrease in size to focus on popular programs. Institutions also move to an individualized service model, where each student receives a custom educational experience and custom credential. These offerings are received by a diverse age range of students. While post-secondary education is

very common for high school students and recent graduates, students access education across their lifespan, as people delay retiring.

Technology Trends

An increase in technology, IT and AI changes the focus of what skills students seek to learn from colleges and universities. This is complemented by the trend that the population is increasingly more mobile and transient, prompting a need for institutions to be less rooted in physical places. This results in schools further adopting technology to facilitate learning in digital formats, both in their program learning outcomes and delivery.

Economic Trends

An increase in government funding for higher education allows institutions to take more risks in their products and offerings, so institutions experiment with service delivery options and program offerings, and become accustomed to testing new products. In general, the public trusts that institutions, under the direction of governing bodies, work with the labour market to the benefit of the economy and Canadian citizens.

Environmental Trends

There is more emphasis on digital environments than physical infrastructure in this scenario, reflected in public acceptance of digital learning environments and other areas of life.

Political & Regulatory Trends

The Ministry of Education maintains its regulatory oversight of colleges and universities, as a funding partner. There is an emphasis on innovation which

enables and encourages them to take risks and promote institutional growth, to the benefit of both institutions as well as students.

Values Trends

Education is incentivized to become more responsive to the student values of the day, however this has limited influence within the public sphere on the motivation to fully embody student values. The value of education is seen in how it is trusted to teach skills not replicable by technology, and is relied on to teach critical thinking and ethics as a priority for student growth.

Resilience Intervention Strategies

- Smaller class sizes for increased interaction among students and faculty.
- Educational delivery and student services are tailored to the student and their needs.
- Resilience is integrated into curriculum outcomes, preparing students to be resilient when entering the workforce in their chosen field.

"Survival of the Resilient"

Economic Decline + Low Trust in Institutions

"In this scenario, it is a display of resilience to even be thinking about higher education!" – Workshop Participant

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This scenario pictures a decline in economy and institutional trust. There is a sense of hopelessness and a spirit of survival that is felt across society, from joblessness to rising price of food, rising poverty and homelessness. Many people have lost their jobs, and the government is floundering to keep industries alive. There is much political unrest, with corruption at all levels of government.

Communities centre around shared ideologies and interests, with often polarizing political results. In this scenario, institutions are not a grounding or uniting force for society; instead, trust in institutions is at an all-time low. Higher education is not a trusted source of teaching and learning, after years of increased politicization. Instead, it is encouraged that individuals learn from each other, and to pursue learning from people whose values and ideology matches your own. This leads to further polarization of thought and value.

There is renewed interest in the skilled trades, as a more stable source of income during economic decline. Colleges see an increase in apprenticeships during this time, and attempt to cut and streamline any other program offerings in an effort to “trim the fat”. The remaining programs are delivered in a variety of formats so that people can take small steps toward their education. With staff and faculty layoffs, only basic student services are offered. Other revenue streams are optimized as much as possible, with online learning offered to international students. Where possible, schools partner with local employers to offer work-integrated learning opportunities for students.

Social Trends

Day-to-day means of living is prioritized over planning for the future in this scenario. Universities and colleges overall see a decline in enrolment, and rely on partnerships with employers and alternative revenue generators to stay afloat. International student enrolment is high, and corporate training is heavily leaned upon, as well as partnerships with private companies.

There is a renewed interest in the skilled trades, and apprenticeships are the only credential at capacity enrolment in colleges. Colleges and universities streamline offerings and diversify delivery options to increase part-time learning, and provide mini-credentials as cost-effective learning opportunities. Work-

integrated learning programs are also boosted, to partner with employers and position education as a means to employment, while providing cheap labour for employers.

In such a period of economic decline, mental health risks increase dramatically, affecting student retention rates. However, colleges and universities lack the resources to properly address these challenges.

Technology Trends

As the saying goes, “necessity is the mother of invention”. There is an increase of entrepreneurial ideas; however, there is also less funding for technological advances. This results in some minor innovative advances, but these do not compare to the advancements in research and technology of previous decades.

Economic Trends

Economic decline prompts a flattening of organizations, with staffing and systems also in decline. Government funding for education is cut, and donor relations are at an all-time low for Canadian colleges and universities. Higher education looks to create more partnerships with private industries in order to survive, which prompts a shift from a public to an increasingly private model of education.

Environmental Trends

With a scarcity mindset, there is less focus on the environmental impact of industries. The environment is negatively impacted by the lessening of attention and work toward improvement.

Political & Regulatory Trends

There is an increase in political strife due to social and political unrest in the nation prompted by to economic challenges. The Ministry of Education tries to gain control over the labour market, and uses increased regulation in higher education to influence this power shift. This has some minor effect on job readiness and availability, and impacts the politicization of higher education.

Values Trends

A survivalist mentality indicates a shift in personal values as people experience the effects of economic decline. There is less value placed on transformative education, when day-to-day living is prioritized over building future growth. As well, formal credentials are not valued in a scenario where trust in institutions is declining.

Resilience Intervention Strategies

- Institutions could offer free resources that contribute to resilience growth in individuals.
- This could include community discussion groups on various topics, to develop a broader world perspective and build empathy for others.
- Making literature resources open to the public for people to do their own research into topics that interest them, and develop their own worldview.
- Create free courses on practical topics to help people survive in this scenario.

"You Can Do It"

Economic Decline + High Trust in Institutions

In this period of economic decline, institutions are positioned as part of the solution. Society affirms that going to school in any form is a display of hope and

resilience, and is congratulated as an achievement of personal success. While schools initially enjoyed an increase in enrolment alongside a period of unemployment, tuition eventually became unaffordable in this scenario. Schools have diversified program offerings to be made available in full-time, part-time, mini-credential, and online delivery options. They have also increased their online education offerings to the international student audience, and pursue other revenue streams such as corporate training.

Social Trends

Enrolment initially increased in post-secondary education, as people were looking to gain skills for employment. There was a large emphasis on skills-based programs and vocational training, and an increase in mature students. This increase in enrolment was followed by a decline when tuition became unaffordable. In response, institutions continually try to integrate multiple delivery options to meet the needs of students, such as micro-credentials, online and part-time learning. This has been met with some success.

Due to budget cutbacks, there are fewer full-time faculty and bigger class sizes. As well, student services are cut back to the basics. Institutions are increasingly looking to alternative revenue streams such as international students. Due to a focus on employment, higher education maintains close connections with industry partners, offering work-integrated learning options where possible.

Technology Trends

Teaching and learning is delivered online to reach an international student audience. Online teaching is further supplemented with automations to save

money in institutions, followed by more automation in college services for the same reason.

Economic Trends

There is a general fear of economic insecurity across society. The Ministry of Education decreases funding for post-secondary education, forcing institutions into an under-resourced situation where they seek alternative revenue streams.

Environmental Trends

As funding declines, there are many ageing infrastructure environments within higher education. This prompts institutions to explore digital environments for online learning facilitation.

Political & Regulatory Trends

The Ministry of Education lessens enrolment target measures for colleges and universities, but maintains a hold on regulation to address skills gaps in the labour force in direct proportion to labour market pressures.

Values Trends

The student perspective is to trust that a college or university credential will lead to employment, which in the end is beneficial to higher education. Education has value to society in this scenario, and becomes a trusted part of the solution to economic challenges.

Resilience Intervention Strategies

- Reduce barriers to education such as admissions and delivery formats, and allow students to “pause” their education and resume it at any time with minimal administrative work.

- Create mini credentials that people can access at any time of life based on their job needs.
- Offer mentorship opportunities for people to create connections in their field, when faculty time does not allow for this type of connection.
- Facilitate peer support groups for students.

PART 4:
Strategic Change

Planning the Change

The alternative scenarios opened our exploration into what changes could occur within higher education, given the critical variables of economic and trust factors. These possible changes could be expanded to a variety of potential futures, and provide some useful guidance as to which futures could be more optimal for students. For instance, providing programs and credentials that adapt to reflect student and societal needs, regardless of the economic context. As well, flexible learning options make education more accessible for a wider audience, and support services can sometimes be barriers to student growth. These examples imagine building blocks for a higher education system that sustains economic and trust variables, and show us how the system may support resilience growth.

Where do we go from here? How can we enable system change that reflects a paradigm shift from neoliberal worldviews to a system more responsive to student needs? What are the possible points of intervention for resilience growth in higher education?

To seek opportunities for change, an Influence Map was created to illustrate what we know about the system, its problem areas, and its possible futures. The Influence Map begins with stakeholders from the Actors Map, and connects them with arrows to identify the direction of their influence over and relationship with each other. Once these influences were mapped, I was able to

identify which stakeholders play a significant role in shaping higher education, have potential to create system changes, and may affect resilience growth in students.

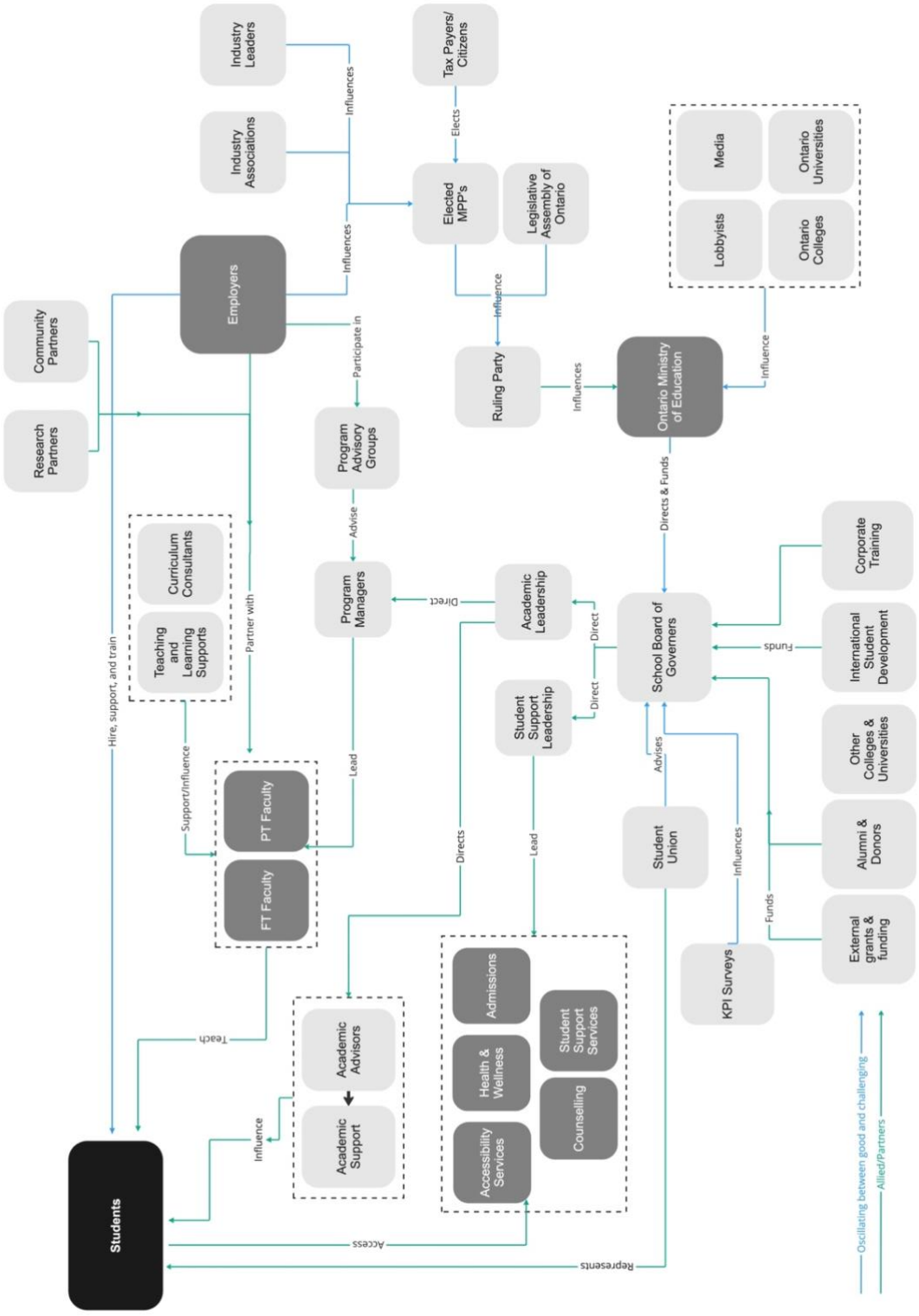

Figure 5: Influence Map

Industry Leaders

The influence map shows the nature of the relationships between actors in the system. External partners such as community partners, research partners, and employers have a major influence on higher education. While the primary function of employers in this system is to hire, support, and train students both during their education and upon graduation, their motivation is their own success. For this reason, their relationship to students oscillates between good and bad, depending on the needs of the student at any given time. This group often partners with faculty for coursework, such as in case studies and work integrated learning opportunities, and advises program managers on curriculum direction and learning outcomes.

Additionally, industry leaders have significant influence over the direction of the Ministry of Education. This is the only major influence in the system that touches both higher education and government leaders. Cooperation with industry leaders, as pictured in this Influence Map, is critical to the current status quo of the higher education system. As such, this relationship could have potential as a significant lever for change in the system.

The alternative scenarios show that along the polarities of economic growth and economic decline, employers and community partners are fundamental to the success of higher education. At times, it could even benefit higher education to closely align with employers to gain public trust. Higher education is also beneficial to employers across industries, in many ways. This relationship is strategic for both parties, and will likely remain strong in the coming years.

So how might industry leaders partner with higher education to encourage the development of resilience in students? A potential solution lies in the

relationships between employers and faculty and program managers. Much of the research on resilience in higher education focuses inwardly on institutional opportunities. However, there is potential to involve industry partners in resilience development in a more overt manner. For example, connecting students with mentors through industry associations, formal mentorship programs, or helping students increase self-awareness through goal-setting and reflection during work-integrated-learning opportunities. Involving employers in the process with the goal of developing resilience together could help to further cement the relationship between higher education and industry, and increase awareness about resilience growth beyond higher education.

Policymakers

Another major influence on higher education is the Ministry of Education, which directs and funds colleges and universities. This relationship oscillates between good and challenging since the Ministry of Education is heavily influenced by economic drivers, the ruling party, the Legislative Assembly of Ontario, and elected Members of Provincial Parliament. As well, organizations such as Ontario Colleges, Ontario Universities, lobbyists, and the media also influence the direction of the Ministry of Education. These factors complicate the relationship between the Ministry of Education and higher education.

However, the government functions to also keep industry at arm's length from higher education in some ways, representing the public interest in what would otherwise be private-interest education. This is a critical function in this system, and should be protected in our current policies and governmental processes. The Ministry of Education's power is wielded through funding policies. These policies are key to leveraging change in this system. How funding is gained has a major influence on program development, curriculum, and student

outcomes. By changing these outcomes to include resilience growth, focus on pedagogy, ethics, multidisciplinary thinking, and problem-solving skills, higher education could greatly improve student outcomes.

Shifting the funding policies would necessarily include a change in accountability for that spending. Current policies lack accountability measures or methods of measuring success for student needs. Institutions are not accustomed to making data-driven or customer-centric decisions, and should implement more robust processes into their business strategy and program development areas. Gathering and analyzing data will alleviate some of the pain points involved in program and product development, which cause an over-reliance on revenue targets to drive decisions. Improving the methods of measuring success would position institutions to be more responsive, flexible, and adaptive organizations to the changing needs of students and society.

Faculty and Student Services

Outside of employers, the relationships closest to students in this influence map are the faculty, student support services, academic advisors, and academic support services. Although students may experience challenges accessing these resources at times, they are generally positive partnerships. Academic leadership, program managers, teaching and learning supports, and curriculum consultants in turn have an important, positive influence on faculty, which has a heavy trickle-down effect on student outcomes.

These relationships closest to students and faculty have a significant influence over students' resilience growth, as discussed earlier in the literature review. For example, Holdsworth, Turner and Scott-Young's (2018) core factors for building resilience in an academic setting include the learning environment, curriculum construction and delivery, and the relationship between the student

and the educator. If an understanding of the learning environment is expanded to include the larger institutional community, student services such as accessibility, health and wellness, and counselling can also be areas that influence resilience growth. At a direct, functional level, these are the relationships that have the greatest impact on resilience growth in students.

Some interventions on resilience growth are currently in place at this level of relationship closest to students in colleges and universities. Certainly, there is a growing awareness of resilience in students and how it can be developed throughout college and university areas. Institutions such as Fanshawe College have even included resilience as a focus area for student learning outcomes. However, the rate at which this level of resilience development can be implemented into the service design of curriculum and student supports is directly affected by external relationships, industry leaders and the Ministry of Education. Until these external relationships are aligned with student needs, academic leadership will be limited in their implementation of resilience growth strategies.

A Paradigm Shift

This change requires a paradigm shift, from higher education functioning as a pipeline to a stable economy, to higher education as a space for resilience growth that is responsive to the needs of students. The need for institutions to become responsive to student needs was also reflected in the alternative scenarios. Across the scenarios, colleges and universities needed to be more responsive to student needs than they currently are. Whether this was specific to the student services, programs and credentials offered, education delivery options, or flexible learning opportunities, each of the scenarios required institutions to be nimble, adaptive, and innovative in their solutions. For a

paradigm shift to occur, industry and governmental leaders must change their direction of action toward being responsive to student needs.

A Student-Centred Approach

In essence, the system of higher education requires a student-centred approach. This would reflect a change from the current model of higher education based on economic outcomes and enrolment. The results of a student-centred approach such as this could impact the system changes learned from the alternative scenarios. For example, programs and credentials could be created to reflect student and societal needs, not just economic outcomes, and higher education could prioritize student needs over employers. As well, flexible learning options could become an expected offering. Prioritizing student needs would shift the system outcomes.

A student-centred approach could also lead to significant development in resilience outcomes in students. For industry leaders, this could take the form of being more involved in resilience development with students. For policymakers, a student-centred approach is required in higher education funding policies, for example tying funding to a diverse set of learning outcomes and pedagogy. And for student-facing faculty and support services within colleges and universities, the student-centred approach would enable them to focus on resilience development. This would result in students experiencing resilience growth during college and university, and more long-term success in their lives following graduation.

Fostering the Transition

What would it take for a student-centred approach to become a reality within these key stakeholder groups? This transition requires a roadmap for

integration of the proposed intervention strategy. The recommended actions included here are proposed next steps to build into the key stakeholder groups; however, they are not a fulsome plan for integration. Instead, the intention is to get starting thinking about actionable ways to create change in higher education.

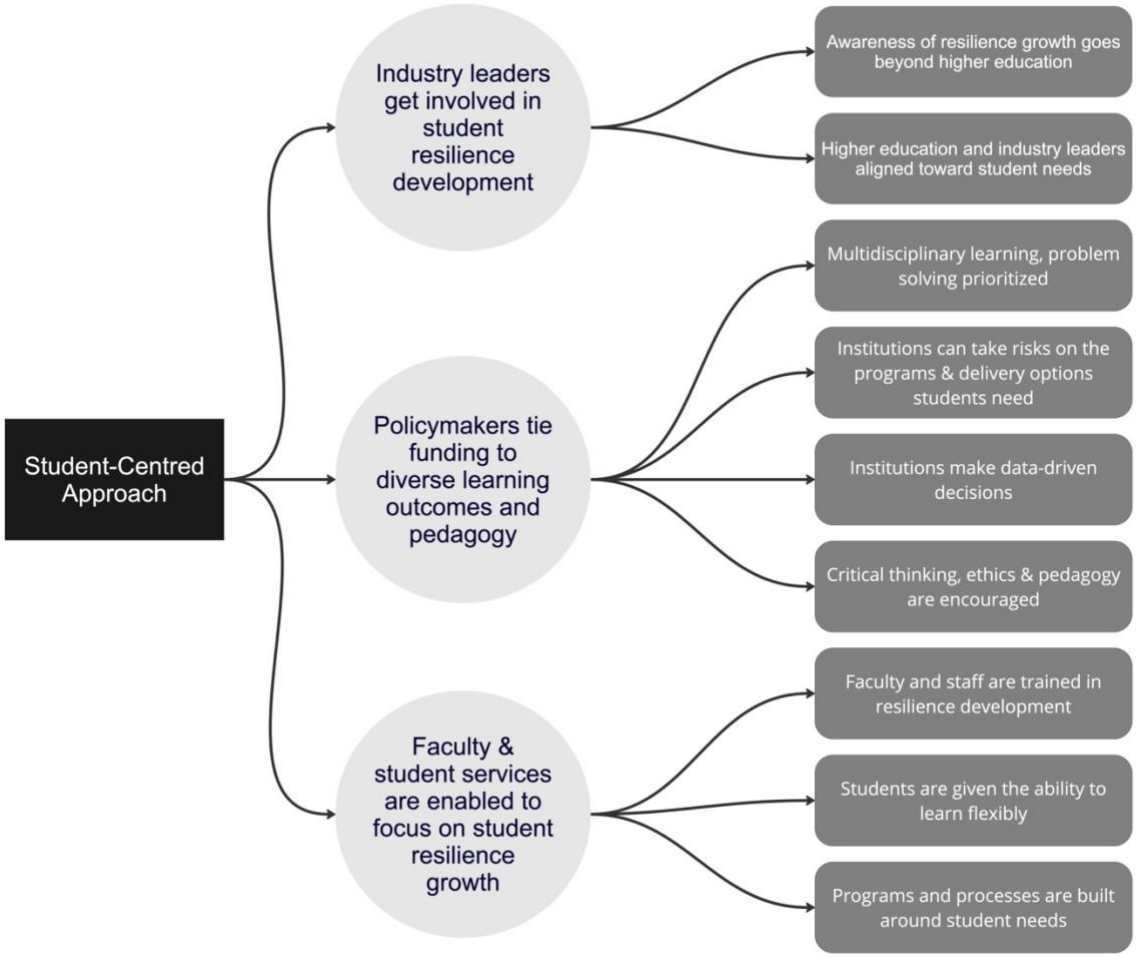

Figure 6: Strategic Change

1. Industry leaders get involved in student resilience development

Involving employers and industry leaders in the development of resilience in students is key to repositioning values away from economic outcomes and toward student needs. This approach would get employers involved with the

students as people, not just as workers. In colleges, this would be a short leap from the current integrations within coursework. However, in universities this might be more of a stretch to involve employers to begin with. For both types of institutions, it is important to maintain a focus on an outcome of resilience growth, not just career skills.

Recommended Actions:

- Conduct focus groups with faculty and program managers to identify opportunities for employers to participate in resilience development while learning
- Create a set of recommended methods of involving industry leaders in resilience growth based on data collected in focus groups, and train curriculum developers on these assets
- Communicate these methods to academic leaders, faculty and program managers
- Pilot methods of involvement with select employers, and revise methods as necessary
- Roll out the methods with a wider set of employers on a continual basis, evaluating the methods consistently
- Offer a training day to employers to learn about resilience development and its importance in individual success

Resources to Build:

- Training resources for employers to use in their own personal and professional development

2. Policymakers tie funding to diverse learning outcomes and pedagogy

The first step to governmental change is an awareness of a need for change, and then must overcome bureaucracy and a multitude of other barriers for such a large systemic change as is being proposed here. Thus, building awareness is a top priority for this area of strategic change. As well, policy design should not only include current student needs, but also the flexibility for higher education to respond to future student needs. This requires a deep understanding of student needs and how society is changing into the future. Higher education institutions can implement these actions to begin to change the system at the government level.

Recommended Actions:

- Conduct system-wide research on student audiences, including their needs, wants, values, and opportunities in their learning experience and outcomes
- Define desired educational outcomes as individual institutions based on the research findings
- Involve the Ministry of Education in the research findings and propose policy change
- Design policies that are responsive to student needs

3. Faculty and student services are enabled to focus on student resilience growth

Transactional resilience depends on intrinsic characteristics within the student, and extrinsic characteristics in their surrounding contexts (Kuldas and Foody, 2021). Because higher education is only one of the socioecological contexts in a student's life, resilience will not appear the same in one individual as it does in

another (Stokols et al., 2013). However, there are elements of the higher education context that can implement interventions in the resilience development of students. Each area of an institution should be examined for opportunities to develop resilience, both academic and service areas. Staff and faculty should be aware of resilience and how it is developed.

As discussed earlier, there are key aspects that are consistently present for resilience growth: the presence and perception of adversity; intrapersonal aspects such as realistic optimism, realistic worldview, self-efficacy, hope, and coping skills, and interpersonal resources within and outside the family (Kuldas and Foody, 2020; Gillespie et al., 2007). Windle (2011) further described the presence of assets or resources to offset the effects of adversity, and the positive adaptation to or avoidance of a negative outcome. These aspects could touch multiple environments within the institution, and require a deep strategic analysis of opportunity in the individual institution.

Recommended Actions:

- Build awareness within staff and faculty by offering training and learning materials on resilience in students
- Analyze each student-facing area for opportunities to increase resilience growth
- Build resilience outcomes into programs and services where possible
- Identify barriers in bureaucracy that prevent resilience growth
- Integrate resilience growth into curriculum

Reflections

When considering neoliberalism in education, I picture students as puzzle pieces. The pieces are prefabricated, in bulk, made to fit exactly as intended into an available job, forming the bigger picture of the Canadian economy. Employers, government leaders and higher education are the puzzle makers, designing the system to produce the picture they desire.

As this project progressed, I began to think of students as creators themselves. Individuals are complex, with individual needs and desires. They possess unique intrinsic and extrinsic factors for resilience. They cannot be perfectly placed pieces in a puzzle; there is no one-size-fits-all solution. And in many cases, they graduate ready to make their own mark on the world, forming new careers that were not available beforehand. In reality, the picture is not perfect either. There are myriad factors out of our control, from the economy to changing job skills, to social and political polarization. In our current system, many students are left without the tools and skills needed to become successful, resilient graduates. The system does not support them, but it could.

The student-centred approach described in this project frames students as creators. It proposes moulding programs and credentials to suit the student rather than the employer, so they can access the education they need when they need it. At the same time, government oversight can enable the processes and requirements that will benefit student development that not only prepare them to be employees, but also to be well-rounded critical thinkers and multi-disciplinary problem-solvers. When students are enabled to be creators, they can flourish outside the bounds of so-called career skills, and find the education that suits their needs. This is where resilience can grow. The system-wide changes

proposed in industry leader, policy-maker, faculty and student services areas make way for resilience to be prioritized and realized as a significant outcome for students during college and university.

In November 2022, Ontario's Auditor General released their report *Financial Management in Ontario Universities.* The report stressed the need to articulate a strategic vision for Ontario's postsecondary system, one that clarifies the differences between college and university programs, and to evaluate the sector to rationalize how many universities are needed. There are significant problems with the neoliberal model of education in Ontario, and the auditor general's report certainly hints at some of these issues. However, the problem continues to frame the value of education in an economic light.

The higher education system has the opportunity to become a vibrant, flexible, responsive experience of resilience growth, by prioritizing student needs at its core. We must broaden our value of education beyond economic value, in order for students to receive the developmental support that higher education could offer. Higher education offers social, moral and ethical values, and the opportunity for self-development in resilience growth, among other areas (Bulaitis, 2020). As students face rapidly changing social, economic, and political landscapes, they need resilience to be successful and adaptive graduates.

References

2022 Edelman Trust Barometer: Trust in Canada. (2022). Edelman Canada. Retrieved March 4, 2023, from https://www.edelman.ca/trust-barometer/2022-edelman-trust-barometer-trust-canada

7 Reasons Adult Learners Are Going Back to School. (2020, April 17). Post University Blog. Retrieved January 8, 2023, from https://post.edu/blog/7-reasons-to-go-back-to-school-why-more-adults-are-heading-back-to-college/

Afshar, V. (2020, June 7). The future of work is hybrid: Work from home and the workplace. ZDNET. Retrieved January 8, 2023, from https://www.zdnet.com/article/future-of-work-hybrid-home-and-workplace/

Alhmidi, M. (2022, January 25). Ontario university students struggling with online classes as COVID pandemic wears on. Global News. Retrieved January 8, 2023, from https://globalnews.ca/news/8536436/ontario-university-students-struggle-online-classes-covid/

Aschaiek, S. (2022, December 13). Researchers investigate the impact of climate change on mental health. University Affairs. Retrieved January 8, 2023, from https://www.universityaffairs.ca/news/news-article/researchers-investigate-the-impact-of-climate-change-on-mental-health/

Ayed, N. (2021, October 12). The University Crisis. CBC Listen. https://www.cbc.ca/listen/live-radio/1-23-ideas/clip/15871705-the-university-crisis

Beltman, S., Mansfield, C., & Price, A. (2011). Thriving not just surviving: A review of research on teacher resilience. Educational Research Review, 6(3), 185–207. https://doi.org/10.1016/j.edurev.2011.09.001

BizWest. (2022, December 28). Education program helps adults improve employment situations. Retrieved January 8, 2023, from https://bizwest.com/2022/12/28/education-program-helps-adults-improve-employment-situations/

Bogost, I. (2022, July 6). Hybrid Work Is Doomed. The Atlantic. Retrieved January 8, 2023, from https://www.theatlantic.com/technology/archive/2022/07/work-from-home-rto-flexibility/661495/

Brasca, C., Krishnan, C., Marya, V., Owen, K., Sirois, J., & Ziade, S. (2022, August 3). How technology is shaping learning in higher education. McKinsey & Company. Retrieved January 8, 2023, from https://www.mckinsey.com/industries/education/our-insights/how-technology-is-shaping-learning-in-higher-education

Brennan, J., Deer, F., Desai Trilokekar, R., Findlay, L., Foster, K., Laforest, G., Wheelahan, L., and Wright, J. (2021). Investing in a better future: higher education and post-COVID Canada. FACETS. 6(): 871-911. https://doi.org/10.1139/facets-2021-0006

Brigid M Gillespie, Wendy Chaboyer & Marianne Wallis (2007) Development of a theoretically derived model of resilience through concept analysis, Contemporary Nurse, 25:1-2, 124-135, DOI: 10.5172/conu.2007.25.1-2.124

Brown, L. (2014, September 23). Ontario university enrolment down for first time in 15 years. thestar.com. Retrieved March 10, 2023, from https://www.thestar.com/yourtoronto/education/2014/09/22/ontario_university_enrolment_down_for_first_time_in_15_years.html

Bulaitis. (2020). Value and the Humanities The Neoliberal University and Our Victorian Inheritance (1st ed. 2020.). Springer Nature. https://doi.org/10.1007/978-3-030-37892-9

Child, F., Frank, M., Lef, M., & Sarakatsannis, J. (2022, August 1). Setting a new bar for online higher education. McKinsey & Company. Retrieved January 8, 2023, from https://www.mckinsey.com/industries/education/our-insights/setting-a-new-bar-for-online-higher-education

Choo, C. W. (February, 1999). The Art of Scanning the Environment. Bulletin of the American Society for Information Science.

Christakis, A. N., & Kakoulaki, M. (2021). Objectifying intersubjectivity through inclusion for a scientific [R] Evolution: Avoiding polarization by engaging stakeholders for saliency, priority and trust. In From Polarisation to Multispecies Relationships (pp. 699-728). Singapore: Springer.

Colarossi, J. (2022, April 26). Mental Health of College Students Is Getting Worse. Boston University. https://www.bu.edu/articles/2022/mental-health-of-college-students-is-getting-worse/

Crews, T. (2022, December 29). Adult learners can help solve higher education's enrollment crisis. But here's what colleges will need to know. Higher Ed Dive. Retrieved January 8, 2023, from https://www.highereddive.com/news/colleges-must-know-adult-learners-higher-education-enrollment-crisis/638877/

Dougherty, K. J., & Natow, R. S. (2020). Performance-based funding for higher education: how well does neoliberal theory capture neoliberal practice? Higher Education, 80(3), 457+. https://link.gale.com/apps/doc/A632482899/AONE?u=toro37158&sid=bookmark-AONE&xid=b93a1150

Dunn, T. (2022, December 6). With CUPE settled, Ontario shifts focus to teachers' unions. But don't expect deals any time soon. CBC News. Retrieved January 8, 2023, from https://www.cbc.ca/news/canada/toronto/ontario-cupe-settled-teachers-unions-1.6675135

Eastman, J. (2018, July 24). University autonomy in Canada: it's time for a checkup. University Affairs. Retrieved March 10, 2023, from https://www.universityaffairs.ca/opinion/in-my-opinion/university-autonomy-in-canada-its-time-for-a-checkup/

Eastman, Jones, G. A., Bégin-Caouette, O., Noumi, C., & Trottier, C. (2019). Federalism and university governance in Canada. Canadian Public Administration, 62(2), 333–335. https://doi.org/10.1111/capa.12319

Farrington, R. (2022, June 28). Going Back To School As An Adult: Is It Worth It? The College Investor. Retrieved January 8, 2023, from https://thecollegeinvestor.com/35744/going-back-to-school-as-an-adult/

Financial Management in Ontario Universities. (2022). Office of the Auditor General of Ontario. Retrieved March 12, 2023, from https://www.auditor.on.ca/en/content/annualreports/arreports/en22/AR_FinancialMgmtUniversities_en22.pdf

Flexible work arrangements, a benefit to all – ILO report. (2023, January 6). UN News. Retrieved January 8, 2023, from https://news.un.org/en/story/2023/01/1132202

Friesen, J. (2019, April 17). New metrics for Ontario university and college funding include employment and graduation rates. The Globe and Mail. Retrieved July 20, 2022, from https://www.theglobeandmail.com/canada/article-new-metrics-for-ontario-university-and-college-funding-include/

Friesen, J. (2020, November 27). Ontario to tie funding of universities and colleges to labour-market needs. The Globe and Mail. Retrieved January 8, 2023, from https://www.theglobeandmail.com/canada/article-ontario-to-tie-funding-of-universities-and-colleges-to-labour-market/

Fung, J. (2022, December 26). How Traditional Education Is Failing Our Job Seekers. Forbes. Retrieved January 8, 2023, from https://www.forbes.com/sites/forbesbusinesscouncil/2022/12/26/how-traditional-education-is-failing-our-job-seekers/?sh=69ea66145d07

Gillespie

Giroux. (2012). Education and the crisis of public values: Challenging the assault on teachers, students and public educationEducation and the crisis of public values : challenging the assault on teachers, students, and public education /. Peter Lang Publishing.

Gismondi, M. (2021, October 13). Why universities are failing to prepare students for the job market Social Sharing. CBC Radio. Retrieved January 8, 2023, from https://www.cbc.ca/radio/ideas/why-universities-are-failing-to-prepare-students-for-the-job-market-1.6208196

Gismondi, M. (2021, October 31). Why universities are failing to prepare students for the job market. CBC Radio. Retrieved July 21, 2022, from https://www.cbc.ca/radio/ideas/why-universities-are-failing-to-prepare-students-for-the-job-market-1.6208196

Goel, V. (2022, January 6). Canada is falling behind globally on public funding for universities. That's a problem. Maclean's. Retrieved January 8, 2023, from https://www.macleans.ca/opinion/canada-is-falling-behind-globally-on-public-funding-for-universities/

Goertzen, B., & Whitaker, B. (2015). Development of psychological capital in an academic-based leadership education program. Journal of Management Development, 34(7), 773–786.

Goodman, S. (2022, December 6). At This Rate, Faculty Diversity Will Never Reach Parity. The Chronicle of Higher Education. Retrieved January 8, 2023, from https://www.chronicle.com/article/at-this-rate-faculty-diversity-will-never-reach-parity

Government of Ontario Ministry of Colleges and Universities. (2016, May). College Funding Model Reform Consultation Paper. Queen's Printer for Ontario. http://www.tcu.gov.on.ca/pepg/Audiences/colleges/cff/fundingreform.pdf

Government of Ontario Ministry of Training, Colleges and Universities. (2015). Focus on Outcomes, Centre on Students: Perspectives on Evolving Ontario's University Funding Model Final Consultation Report (No. 978–1-4606-7072–9). Queen's Printer for Ontario. http://www.tcu.gov.on.ca/pepg/audiences/universities/uff/UniversityFundingFormulaConsultationReport_2015.pdf

Government of Ontario Newsroom. (2022, March 23). Ontario Extends Freeze on College and University Tuition. [Press Release]. https://news.ontario.ca/en/release/1001830/ontario-extends-freeze-on-college-and-university-tuition

Government of Ontario Newsroom. (2023, March 2). Ontario Putting Public Colleges and Universities on Stable Footing Now and into the Future. [Press Release]. https://news.ontario.ca/en/release/1002771/ontario-putting-public-colleges-and-universities-on-stable-footing-now-and-into-the-future

Hébert, C. (2022, November 4). Doug Ford's war with CUPE risks throwing Canada into a unity crisis. Toronto Star. Retrieved January 8, 2023, from https://www.thestar.com/politics/political-opinion/2022/11/04/doug-fords-war-with-cupe-risks-throwing-canada-into-a-unity-crisis.html

Herman, D. (2022, December 16). ChatGPT Will End High-School English. The Atlantic. Retrieved January 8, 2023, from https://www.theatlantic.com/technology/archive/2022/12/openai-chatgpt-writing-high-school-english-essay/672412/

Hilberath, C., Kilmann, J., Lovich, D., Tzanetti, T., Bailey, A., Beck, S., Kaufman, E., Khandelwal, B., Schuler, F., & Woolsey, K. (2020, September 22). Hybrid Work Is the New Remote Work. BCG Global. Retrieved January 8, 2023, from https://www.bcg.com/publications/2020/managing-remote-work-and-optimizing-hybrid-working-models

Inayatullah, S. (2008). Six pillars: futures thinking for transforming. Foresight, 10, 4-21.

Jones, G., & Skolnik, M. (2009, February 13). Degrees of Opportunity Broadening Student Access by Increasing Institutional Differentiation in Ontario – Higher Education Quality Council of Ontario. Higher Education Quality Council of Ontario. https://heqco.ca/pub/degrees-of-opportunity-broadening-student-access-by-increasing-institutional-differentiation-in-ontario/

Jones, P., Van Ael, K. (2022). Design Journeys through Complex Systems: Practice Tools for Systemic Design. BIS Publishers.

Kauffman, E. (2021, March 30). The Crisis of Academic Freedom in Canada, and How to Address It. Macdonald-Laurier Institute. Retrieved March 10, 2023,

from https://macdonaldlaurier.ca/crisis-academic-freedom-canada-address/

Kuldas, & Foody, M. (2021). Neither Resiliency-Trait nor Resilience-State: Transactional Resiliency/e. Youth & Society, 44118–. https://doi.org/10.1177/0044118X211029309

Liu, L. (2020, September 2). Back to the Future Classroom: VR/AR/AI Transformation. EqOpTech. Retrieved January 8, 2023, from https://www.eqoptech.org/publications/2020/8/22/back-to-the-future-classroom-vrarai-transformation

Ma, A., Belsha, K., & Wall, P. (2022, November 18). Schools struggle to hire more mental health professionals for students. PBS NewsHour. https://www.pbs.org/newshour/education/schools-struggle-to-hire-more-mental-health-professionals-for-students

Marcus, J. (2022, October 7). What researchers learned about online higher education during the pandemic. The Hechinger Report. Retrieved January 8, 2023, from https://hechingerreport.org/what-researchers-learned-about-online-higher-education-during-the-pandemic/

Margo. L. Brewer, Gisela van Kessel, Brooke Sanderson, Fiona Naumann, Murray Lane, Alan Reubenson & Alice Carter (2019) Resilience in higher education students: a scoping review, Higher Education Research & Development, 38:6, 1105-1120, DOI: 10.1080/07294360.2019.1626810

Marie Vander Kloet & Erin Aspenlieder (2013) Educational development for responsible graduate students in the neoliberal university, Critical Studies in Education, 54:3, 286-298, DOI: 10.1080/17508487.2013.826706

Marr, B. (2021, July 23). 10 Best Examples Of VR And AR In Education. Forbes. https://www.forbes.com/sites/bernardmarr/2021/07/23/10-best-examples-of-vr-and-ar-in-education/?sh=107f75f31f48

Mathur, A. (2017, October 27). What is corridor funding, and how will it affect Ontario universities' budgets? LinkedIn. Retrieved March 10, 2023, from https://www.linkedin.com/pulse/what-corridor-funding-how-affect-ontario-universities-asheet-mathur/

Newton, D. (2022, March 29). Another Bad Report Card For Remote, Online Learning. Forbes. Retrieved January 8, 2023, from https://www.forbes.com/sites/dereknewton/2022/03/29/another-bad-report-card-for-remote-online-learning/?sh=420269dd7446

Olive, D. (2022, September 17). We're losing workers, not jobs. Toronto Star. https://www.thestar.com/business/opinion/2022/09/17/were-losing-workers-not-jobs.html

Online Learning. (n.d.). Government of Saskatchewan. Retrieved January 8, 2023, from https://www.saskatchewan.ca/residents/education-and-learning/prek-12-education-early-learning-and-schools/online-learning

OnPassive. (2021, March 25). Learn How the World of Education Is Set To Change with AI and VR. ONPASSIVE. Retrieved January 8, 2023, from https://onpassive.com/blog/ai-vr-changing-education/

Perry, J. (2021, July 20). Trust in public institutions: Trends and implications for economic security. United Nations Department of Economic and Social Affairs. Retrieved March 10, 2023, from https://www.un.org/development/desa/dspd/2021/07/trust-public-institutions/

Peters, D. (2021, December 17). Performance-based funding comes to the Canadian postsecondary sector — University Affairs. University Affairs. Retrieved March 10, 2023, from https://www.universityaffairs.ca/news/news-article/performance-based-funding-comes-to-the-canadian-postsecondary-sector/

Peters, D. (2021, February 22). Performance-based funding comes to the Canadian postsecondary sector. University Affairs. https://www.universityaffairs.ca/news/news-article/performance-based-funding-comes-to-the-canadian-postsecondary-sector/

Peters, D. (2021, February 22). Performance-based funding comes to the Canadian postsecondary sector. University Affairs. Retrieved January 8, 2023, from https://www.universityaffairs.ca/news/news-article/performance-based-funding-comes-to-the-canadian-postsecondary-sector/

Postmedia News. (2022, September 17). Group-think in universities. Toronto Sun. https://torontosun.com/opinion/editorials/editorial-group-think-in-universities-2

Rigas, & Kuchapski, R. (2016). “Strengthening” Ontario Universities: A Neoliberal Reconstruction of Higher Education. Canadian Journal of Educational Administration and Policy, 180, 47–.

Ross, N. M., Bejan, R., & Zubriski, S. (2022, November 21). University and school strikes across Canada are about workers’ rights — and protecting education as a public good. The Conversation. Retrieved January 8, 2023, from https://theconversation.com/university-and-school-strikes-across-canada-are-about-workers-rights-and-protecting-education-as-a-public-good-194148

Rushowy, K. (2019, January 16). Ford government's tuition cut to cost universities $360 million and colleges $80 million. Toronto Star. Retrieved March 10, 2023, from https://www.thestar.com/politics/provincial/2019/01/16/ford-governments-tuition-cut-to-cost-universities-360-million-and-colleges-80-million.html

Rushowy, K. (2019, January 17). Free-tuition program is gone, tuition reduced and student fees are no longer mandatory, Ford government. Toronto Star. Retrieved March 10, 2023, from https://www.thestar.com/politics/provincial/2019/01/17/free-tuition-program-is-gone-tuition-reduced-and-student-fees-are-no-longer-mandatory-ford-government-announces.html

Rutter, M. (2012). Resilience as a dynamic concept. Development and Psychopathology, 24(2), 335-344. doi:10.1017/S0954579412000028

Sacker, A., & Schoon, I. (2007). Educational resilience in later life: Resources and assets in adolescence and return to education after leaving school at age 16. Social Science Research, 36(3), 873-896. https://doi.org/10.1016/j.ssresearch.2006.06.002.

Sanderson, B., & Brewer, M. (2017). What do we know about student resilience in health professional education? A scoping review of the literature. Nurse Education Today, 58, 65–71. https://doi.org/10.1016/j.nedt.2017.07.018

Sarah Holdsworth, Michelle Turner & Christina M. Scott-Young (2018) … Not drowning, waving. Resilience and university: a student perspective, Studies in Higher Education, 43:11, 1837-1853, DOI: 10.1080/03075079.2017.1284193

Sharp, M. (2022, December 6). Ontario education workers ratify deal with government, but the fight continues. Canada's National Observer.

https://www.nationalobserver.com/2022/12/05/news/ontario-education-workers-ratify-deal-fight-continues

Singh, J., [@theJagmeetSingh]. (2022, November 4). Let me be clear. Doug Ford and Pierre Poilievre's attack on education workers in Ontario is also an attack on: - Parents - Students - The Education System And, the constitutionally protected rights of every worker across our country to fight for better wages and benefits. Twitter. Retrieved January 8, 2023, from https://twitter.com/theJagmeetSingh/status/1588588766041899008?t=LnSViAu97dARIeBmUBTFsg&s=19

Skuterud, M. (2023, February 23). Canada's worker 'shortage' is an illusion, and bringing in cheap labour doesn't help. The Globe and Mail. https://www.theglobeandmail.com/business/commentary/article-canada-labour-shortage-demand-supply/

Smith. (2018). Economic precarity, modern liberal arts and creating a resilient graduate. Educational Philosophy and Theory, 50(11), 1037–1044. https://doi.org/10.1080/00131857.2017.1341826

Stokols, Lejano, R. P., & Hipp, J. (2013). Enhancing the Resilience of Human–Environment Systems: a Social Ecological Perspective. Ecology and Society, 18(1), 7–7. https://doi.org/10.5751/ES-05301-180107

Student mental health during and after COVID-19: How can schools identify youth who need support? (2020, September 22). American Psychological Association. Retrieved January 8, 2023, from https://www.apa.org/topics/covid-19/student-mental-health

Tamm, S. (2022, January 7). 10 Biggest Disadvantages of E-Learning. E-Student.org. Retrieved January 8, 2023, from https://e-student.org/disadvantages-of-e-learning/

The Canadian Press. (2022, December 29). Ontario appeals court ruling that struck down law limiting public sector wages. National Post. Retrieved January 8, 2023, from https://nationalpost.com/news/politics/ontario-appeals-decision-that-struck-down-wage-limiting-law-for-public-sector-workers

Tschannen-Moran, M. (2017). Trust in Education. Oxford Research Encyclopedia of Education. https://doi.org/10.1093/acrefore/9780190264093.013.79

u/agaric. (2022, November). Has the Ford government declared a class war? Why Ontario education workers are taking to the streets [Online forum post]. Reddit. Retrieved January 8, 2023, from https://www.reddit.com/r/canada/comments/ymh8dk/has_the_ford_government_declared_a_class_war_why/

Ungar, M. (2011), The Social Ecology of Resilience: Addressing Contextual and Cultural Ambiguity of a Nascent Construct. American Journal of Orthopsychiatry, 81: 1-17. https://doi-org.ocadu.idm.oclc.org/10.1111/j.1939-0025.2010.01067.x

Usher, A. (2021, January 17). The Miracle of Ontario College Funding. Higher Education Strategy Associates. Retrieved January 8, 2023, from https://higheredstrategy.com/the-miracle-of-ontario-college-funding/

Vander Kloet, & Aspenlieder, E. (2013). Educational development for responsible graduate students in the neoliberal university. Critical Studies in Education, 54(3), 286–298. https://doi.org/10.1080/17508487.2013.826706

Vivian Chan (2015) Implications of key performance indicator issues in Ontario universities explored, Journal of Higher Education Policy and Management, 37:1, 41-51, DOI: 10.1080/1360080X.2014.991531

Walker, J. (2022, September 8). Poor Cousin No More: Lessons for Adult Education in Canada from the Past and New Zealand. Institute for Research on Public

Policy. Retrieved January 8, 2023, from https://irpp.org/research-studies/poor-cousin-no-more-lessons-for-adult-education-in-canada-from-the-past-and-new-zealand/

Walker, L., Luechtefeld, R., & Long Walker, J. A. (2019). Creating Pathways to Personal Resilience Through Classroom Simulations. Simulation & Gaming, 50(2), 214–242. https://doi-org.ocadu.idm.oclc.org/10.1177/1046878119838002

Wall-Andrews, C., & Lightwala, O. (2022, November 18). Canada's largest arts organizations fail at leadership diversity. The Globe and Mail. https://www.theglobeandmail.com/arts/art-and-architecture/article-canadas-largest-arts-organizations-fail-at-leadership-diversity/

Waller, M. (2001). Resilience in Ecosystemic Context: Evolution of the Concept. American Journal of Orthopsychiatry, 71(3), 290–297. https://doi.org/10.1037/0002-9432.71.3.290

We are racially abused in Canada, African students say. (2020, June 30). Garowe Online. https://www.garoweonline.com/en/news/world/we-are-racially-abused-in-canada-african-students-say

Weingarten, H. (2021). Improving the Linkages between University and Work. Public Policy Forum, 978-1-77452-077–2. https://ppforum.ca/wp-content/uploads/2021/06/ImprovingTheLinkagesBetweenUniversityAndWork-PPF-June2021-EN.pdf

Whitehead, J. (2022, November 15). Experts say impact of pandemic still affecting university students' mental health. Yahoo! News. Retrieved January 8, 2023, from https://ca.news.yahoo.com/experts-impact-pandemic-still-affecting-090549239.html?guccounter=1

Will, M. (2022, December 7). Teens Are Struggling With Climate Anxiety. Schools Haven't Caught Up Yet. Education Week. Retrieved January 8, 2023, from

https://www.edweek.org/leadership/teens-are-struggling-with-climate-anxiety-schools-havent-caught-up-yet/2022/12

Windle. (2011). What is resilience? A review and concept analysis. Reviews in Clinical Gerontology, 21(2), 152–169. https://doi.org/10.1017/S0959259810000420

Yadav, S. (2022, November 18). UK students still facing mental health issues due to Covid-19 pandemic. International Business Times UK. https://www.ibtimes.co.uk/uk-students-still-facing-mental-health-issues-due-covid-19-pandemic-1708972

York University School of Continuing Studies. (2020, June 25). York University celebrates the construction of a new School of Continuing Studies twisted building. Retrieved January 8, 2023, from https://www.newswire.ca/news-releases/york-university-celebrates-the-construction-of-a-new-school-of-continuing-studies-twisted-building-842174570.html