Transitions to Post-Secondary Life:

How Do Actions Supporting Student Readiness and Preparedness Fit Together?

and

What is Missing from Our Current Practices?

A White Paper on Student Transition from Secondary School to Post-Secondary Life

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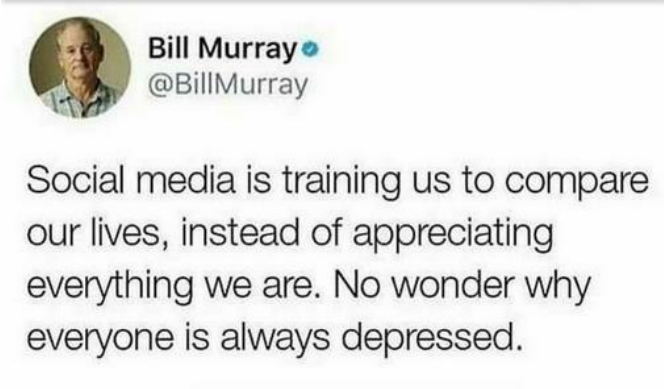
The transition from high school to post-secondary life (be that college, university, trade school, working or gap yearing) ranges from smooth to stress and anxiety ridden with a lot in between. College and University instructors and administrators and employers wonder about (bemoan) the preparation level of incoming first year students while high school teachers and administrators are routinely casting about for the sort of preparation strategies necessary to ensure that their students will, upon graduation, be appropriately prepared and launched so that they soar across the post-secondary transition gap and effectively and successfully adapt to and engage in the learning, working and living environments they enter. In moments of candor, most of those educating, training, employing or simply watching our young people enter the stage of emerging adulthood typically express some surprise at the apparent size of the transitional gap many high school graduates are navigating and we wonder why those of us on either side of the gap have not spent more time *together* discussing how we might better prepare, launch, welcome, advise, support, mentor, and teach these ongoing waves of emerging adults navigating transitions to their post-secondary lives.

In addition, there are indications that some recent sociohistorical shifts have come together in ways that have made the transition to post-secondary life more difficult as we begin to rather alarmingly note increases) in rates of issues with anxiety and depression, rates of self-harm, levels of suicidal ideation and increases in the suicide rates among adolescents and emerging adults (Twenge, 2017; Luckianoff and Haidt, 2018; Levinson-King, 2017 and Skinner & McFaull, 2012). These rate jumps have led to the expression of accusatory concerns over the impact of the ubiquity of smartphone use and social media engagement especially by emerging adults born since 1994 and now referred to as members of iGen (the internet generation).



Piling on with additional concerns about the evils of social media and smartphone, or more generally, of screen use would not, *yet*, help us to better understand what is going on within current post-secondary transitions. Rather, I am going to argue here that those of us working in or around high schools, colleges, and universities need to step back and take a hard look at the diverse array of theories, guidelines, and interventions/practices that have been applied to before, during, and after post-secondary transition moments and then we need to find some ways to begin to have productive conversations about what can be done to optimize the post-secondary transitions for those moving from high school into their post-secondary lives.

An essential component of our preparatory reflections and a central topic of our conversations on post-secondary transitions must be the ***developmental*** transitions that occur as individuals move from adolescence (the teenaged years) and into and through emerging adulthood (from 18 to 25 or 29 years of age, Arnett, 2006, 2014). If we better *understand* what is going on developmentally before, during and after the post-secondary transition we may be able to more effectively encourage, mentor and support our students and children as they negotiate it. As well, it will help us to better understand that a key determinant in how comfortably and effectively emerging adults negotiate their own post-secondary transitions will depend upon how clearly they understand that how it goes is determined largely by how they see and understand it, how deeply they become engaged in it and, most importantly, how they make it their own – their first steps in charting their own futures and beginning to tell their own life stories or developmental journeys. As such, they most certainly need to be part of our conversations about post-secondary transitions!

Gearing Up a Developmental Perspective on Big Life Transitions

High school and post-secondary life beyond high school (to be as inclusive as possible) are not continuous, they are on opposite sides of a rather large developmental transition point and because of this they operate on rather different sets of assumptions, expectations, and consequences that make the sorts of preparation discussions noted above rather difficult. As such, it is not surprising we have not been talking to one another much across the secondary to post-secondary transition divide. K-12 school systems have had success over the years in effectively negotiating the other major developmental shift they have had to factor into their planning for and engaging with their students – that being the shift children are typically in the middle of when they arrive at grade 1. While developmental psychology has been working on a much more nuanced view of child development over the first 8 years of life, it is worth stepping back and recalling the big picture view that has historically given rise to the fact that most societies with formal child education systems have placed the age of entry into those systems at around 5 to 6 years of age. In big picture terms this reflects the general observation that preschoolers are different from early school aged children. A big part of what contributes to many of the "cute" things preschoolers say and do is the fact that their thinking lacks logic and, as a result, is rather self -involved or egocentric. The 5-to-7-shift (Sameroff & Haith, 1996), the onset of concrete operational thinking, or however you wish to refer to it has been recognized as a developmental prerequisite for early school aged children being able to take up reading, basic arithmetic, and the initial negotiation of different social perspectives that are part of the early grade school curriculum.

It took a while (back when I was in grade 1 some kids failed it and were kept back as the rest of us moved on to grade 2), but education systems figured out that some of what makes up a full definition of what it means for a child to be "ready" for grade 1 is developmental and not just experiential or intellectual. This has led to the current approach (Hamre & Pianta, 2005; Jimerson,1999; West, 2012) to the early elementary school years which involves grouping grades one through 3 together as the "primary" years and building curriculum and learning processes around the insight that when children struggle with "readin" and "rithmatic" in these early grades it is most likely because they have not yet made the developmental shift necessary for them to appreciate and engage with the logical features of basic math and reading and rather than

stigmatizing them as failures by having them repeat an early grade it is better to blend subject work groups across the early grades so that children are comfortably included with their peers despite differences in their rates of developmental shifts into the logical thought patterns required by elementary school curriculum. Towards the end of grade 2 and into grade 3 most children have achieved their developmental logical thinking milestones and the time is right to begin to assess those children who still seem to be struggling with curricular material in order to identify and, hopefully address (though IPP's etc.) their learning issues.

In addition to this work on the school side of this developmental transition there has been a lot of work on the question of how to define and engage with issues related to "school readiness" at both the kindergarten level and further back developmentally within the burgeoning field of early childhood education/experience. It will help here, and when we get back to the developmental transition to post-secondary life below, if we make and sharpen a distinction between *readiness* and *preparedness*. The two terms are often used interchangeably but they can (and should) be used to remind us of two overlapping yet distinctly defined influences on transition success. In examining issues in post-secondary transitions, the American National Assessment of Educational Process (2008) describes *readiness* as "a holistic, dispositional condition" and *preparedness* as "a concrete aggregate of skills." Replacing "dispositional" with "developmentally linked" so that *readiness* is defined as a *holistic developmentally linked condition* helps make the distinction clearer.

So, what is involved in readiness and preparedness for entering grade 1? Well, much of preparedness is captured by kindergarten activities and curriculums that focus on ensuring that children leave kindergarten with their *letters* and *numbers.* By contrast, much of readiness is captured by the development of logical thought discussed above that is pre-requisite for early grade school curricula in math and reading and developmental advances are not simply teachable but are, rather, to be awaited. Between these two defining conceptual poles we find things defined by blends of developmental disposition and skills including being able to play and play well with others, respect authority, sit still and attend for reasonable periods of time, notice, follow and expand upon your interests and fascinations (your creativity and meaning making

capacities), and learn to delay personal gratification and to begin to see the advantages of the planfulness that results from doing so (Carlton & Winsler, 1999; Winter & Kelley, 2008).

The huge investment of interest in and work on what early childhood education could and should look like focusses in upon the overlaps between readiness and preparedness (Ashton, Hunt & White, 2008). In so doing it encourages us to view preschoolers as "mighty learners" who need to be encouraged and supported in their efforts to play their way through important developmental advances in order to optimize their *readiness* to be *prepared* to become primary students. Some of the important take-aways from this for those working with children before and after the transition from preschool to school include:

1. Transition success is a matter of BOTH readiness and preparedness
2. Be clear about whether you are working with your students on preparedness or waiting for readiness as they involve quite different things.
3. Most of the things you can do in relation to readiness are going to be focused upon activities, tasks and competencies that are developmental precursors to things that will only emerge near or even after transition to become core features of students' hopefully successful post-transition adaptation.

These observations on the relationship between development and adaptation to life transition *into* educational systems and processes and the insights they provide about the differences and overlaps between readiness and preparedness can help us to more clearly understand what is going on with students at the other end of the K-12 system as they transition either to post-secondary training or educational settings or out into the work-world. It is especially important that we develop a better understanding of this later life transition as recent population level research is indicating that the current generation of emerging adults (18 to 25 or 29 years of age and earlier) are experiencing significantly higher levels of anxiety and depression as they attempt to adapt to their post-secondary educational or workplace settings (Twenge, 2017). In the short space of a few years there has been a 60% increase in the rate of depression among female college and university students and a 40% increase in the rate for male students in the United States (Twenge, 2017 and Luckianoff and Haidt, 2018; Haidt, 2024). In addition, the rate of self-harm

(i.e., self-cutting etc.) in the females within this same population also jumped dramatically and the suicide rates for both males and females have jumped up in the United States (and in Canada as well, especially for females, Levinson-King, 2017 and Skinner & McFaull, 2012). In the face of these sorts of alarming trends it seems like it is a good time for us (researchers, secondary and post secondary educators and administrators and employers) to figure out how to have effective conversations about what is generally involved in the transition to post-secondary life and in particular what is going on with young people who were born in or after 1994 (iGens/GenZs) who are now in the middle of this life transition.

The percentage of the Canadian working population who acquired some level of post-secondary education experience or training has been increasing steadily for years and has gone up by 12% from 75.6 to 87.6% in the last 10 years alone (Statistics Canada, 2017). This means that the question of how our young people are managing their transitions from high-school to their next educational experience applies to almost all recent and future high school graduates.
I am not going to review and summarize the entirety of the huge literatures on research and intervention issues in transition to post-secondary endeavours. Rather I am going to point to a number of prominent approaches and themes that have arisen out of these literatures and try to show how they fit into a developmentally informed framework that uses the concepts of readiness and preparedness discussed earlier to provide some suggestions for how we might best invest our teaching, training, and support activities on both sides of the transition to post-secondary life. That will make it possible to begin to discuss the potential ways in which things like dual credit courses could be initiated and managed so that they optimally assist students with both their readiness and preparedness for the transitions to their post secondary lives.

Fitness for Post-Secondary Education

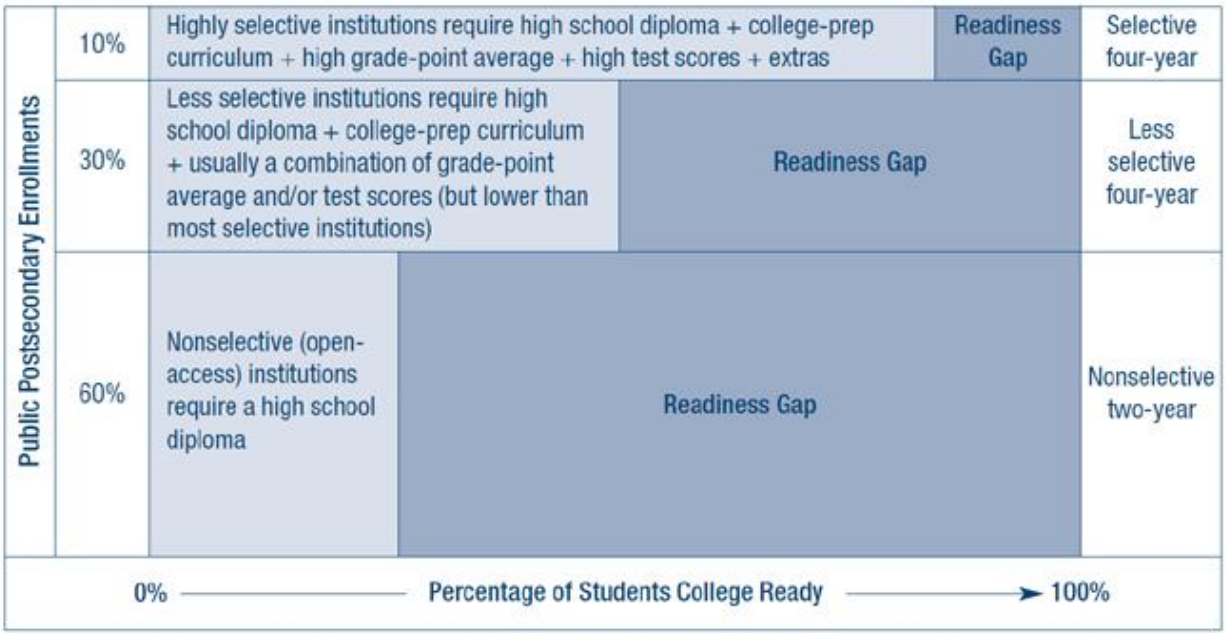
There have been a large number of iterations of a rather cynical joke told among college or university teachers which begins in any number of ways with one or more students asking their instructor or professor why their previous intense studying efforts have not produced the results they desired on an exam or paper. The punch line is always offered by the instructor/professor and includes either some version of the line “Ah well, perhaps college or university is not for you” or “Maybe you are stupid.” Underlying this punchline is a belief that not all emerging adults are

capable of college or university level work and should not be admitted to post-secondary studies. This is sometimes associated with hushed discussions of falling admission standards or, relatedly, of beliefs that the K to 12 educational system is not doing its job equipping their students for what they will encounter on the other side of their post-secondary transitions. None of this, of course, is helpful. Thankfully there is a veritable mountain of research directed at the question of why many students struggle when they are admitted for post-secondary studies looking at both sides of the transition gap (i.e., high school and post-secondary). The term used most consistently is that of ***readiness*** (confounded with preparedness as I have indicated above). Given its larger population base, much of the research into this question is American rather than Canadian. It is, however, worth considering seriously as the depth of the data and the broad range of state and local level initiatives that have been put into play are quite instructive. Also, from a developmental perspective or, in other words, from the point of view of the students who are working on their post-secondary transitions, there are many individual and socio-cultural similarities between them and Canadian emerging adults.

Beyond Fitness: Post-Secondary Readiness and Preparedness

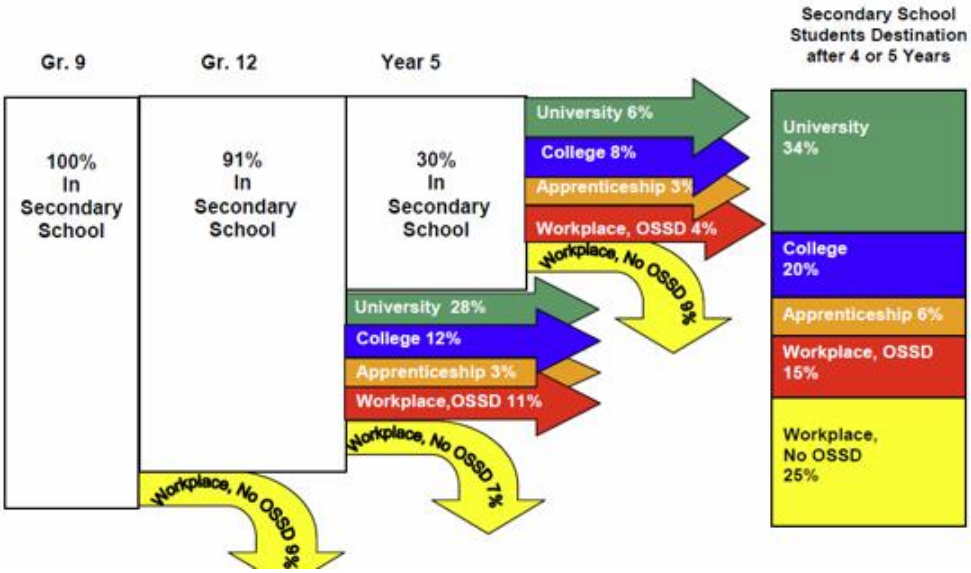
The National Center for Public Policy and Higher Education (Shulock & Callan, 2010) defines a "Readiness Gap" (see Figure 1 below) that is small for students attending selective, highly competitive post-secondary schools, higher for less selective schools and as high as 60% of admitted students at non-selective two-year school (colleges). Rather than deploying the joke punchline stated earlier, a number of institutional and state (and some provincial) level initiatives have been undertaken to try and address this gap and their design and results are instructive. In most American post-secondary institutions, incoming students are assessed for readiness for work levels in post-secondary courses (much as Canadian universities assess for English language competency). Students not meeting criteria are provided access to remedial courses intended to bring them up to a level where they can enroll in "real" college or university courses in core subjects such as Math or English.

Figure 1: The Readiness Gap



A similar version of this information for the Province on Ontario is provided in the figure below (King et al, 2009).

Figure 2: Transition of (Ontario) Secondary School Students from Enrollment in Grade 9 in 2003-04 to their Post-Secondary Destinations in Fall 2008



Before we can look at how to address the "Readiness Gap" we need to retrieve a few of the conceptual tools we discussed earlier in relation to the "into-school" transition. We need to do this as most of the large-scale efforts to build an understanding of the nature of the gap in order to inform the construction of intervention strategies on either side of the post-secondary transition gap describe the transition gap as a "multidimensional construct that includes academic (cognitive) preparation and noncognitive factors previously shown to affect college outcomes, which include, but are not limited to, motivation, engagement, and self-efficacy (Allen, 1999; Gore, 2006; Kuh, 2005; Torres & Solberg, 2001; Zajacova, Lynch, & Espenshade, 2005; Lombardy, Conley, Seburn and Downs, 2013)". Successful transition to post-secondary life IS a complex multidimensional construct that needs to be unpacked in several ways if we are to discuss, understand and promote it.

Analysis of the transition to post-secondary life needs to be divided into; (1) things that are or should be the responsibility of high school counsellors, teachers, administrators and school boards; (2) those things that are or should be the responsibility of university advisors, instructors/professors, administrators, and the college/university as a whole, and; (3) things that are the responsibility of the students approaching, passing through and adapting to what they find on the other side of their post-secondary transitions. However, there is more to this than just

handing out responsibilities or tasks. We also must revisit the distinction made earlier between *readiness* and *preparedness*. Recall that the American National Assessment of Educational Process (2008) described *readiness* as "a holistic, dispositional condition" and *preparedness* as "a concrete aggregate of skills." Replacing "dispositional" with "developmentally linked" so that *readiness* is defined as a *holistic developmentally linked condition* helps make the distinction clearer. A necessary initial step towards gaining this conceptual clarity is to understand what is going on developmentally through senior high school and on into the years of emerging adulthood.

A key developmental theoretic point is that certain life tasks cannot be effectively managed until the growing individual has developed the appropriate skills or ways of thinking that can make positive progress possible. In the earlier discussion of the transition into grade 1, I noted that children must develop the capacity for basic logical thinking *before* they can even begin to effectively grapple with simple arithmetic or understand that those symbols on the page in front of them are letters and words that represent the sounds or verbal utterances of their local language. Once it emerges, the capacity for basic logical thinking is available to be put into play to better understand and manage not only school subjects but social interaction (who thinks what), empathy and social regulations, rules and manners. When it appears, basic logic essentially opens a whole new world of developmental possibilities. So, is there a package of developmental changes that opens up a whole other new world of developmental possibilities as students leave high school and begin the transition into and through emerging adulthood?
The simple answer is yes, but, of course, it is complex and multidimensional. Throughout adolescence and into emerging adulthood, metacognitive or higher order thinking abilities emerge and expand (Kuhn, 2000). These include the ability to think in terms of possibilities, or to think hypothetically, or critically which has formal applications for scientific reasoning across many academic disciplines but also has broader applications in the areas of self-reflection, social competence, planning, and identity development. Higher order thinking also has implications for how adolescents and emerging adults think about facts, assumptions, and the nature of knowledge and opens up opportunities to consider that the search for knowledge and ultimately for meaning in many areas may be less factual and more relativistic (to experience, culture, or other perspectives) than previously realized (Boyes and Chandler, 1992). While these sorts of

realizations can shake one's foundations and, as such, be a bit unsettling, they can also open up vistas for creativity, envisioning investigative possibilities, seeing entrepreneurial opportunities, challenging the status quo in many areas, and, most importantly, developing a sense of personal identity that can be used as a compass for navigating this new world of developmental opportunity (by making career choices, committing to principles and beliefs and developing a sense of meaning and direction).

The ability to engage in higher order thinking is a necessary but not sufficient component of what is required for positive navigation through emerging adulthood and into full fledged adult status. It is this insufficiency that accounts for a large proportion of the "Readiness Gap" discussed above. Remember, the development of basic logical thinking around grade 1 made learning arithmetic and reading *possible* but the concerted efforts of teachers, school administrators and parents are important parts of how we ensure that most children *master* their basic subjects, so they can move on effectively towards (higher order thinking), more senior grades, graduation and adaptive post-secondary transitions. What is a bit different about the developmental transition to higher order thinking is that it is, essentially, the last step or stage in the development of thought capacity.

So, while most students develop some of the capacity for higher order thinking at some point in high school there is a degree of variability in how well they master this developmental tool and in how consistently and broadly they apply it within their studies and in their life more generally. It is analogous to the fact that while a large proportion of emerging adults have or obtain driver licenses there is a rather large range in how competently, or safely, they, and adults in general, drive. The degree of variability of in the application of higher order thinking is expanded further by the fact that while there has been a strong and growing interest among high school teachers and researchers in building curriculum and teaching strategies supportive of higher order or critical thinking within academic disciplines there is little or no systematic introduction, support or guidance in how to apply those same developmental advances to social reasoning or to the life reflection, planning and design that give rise to a strong sense of personal identity and personal meaning and purpose. Finally, we add to this the fact that the gap between secondary and post-secondary education systems has historically has been viewed (not entirely inappropriately) as

defined by merit-based selectivity where only those who can demonstrate they have sufficiently mastered the application of higher order thinking skills *in their academic subjects* by producing a transcript attesting to a sufficiently high GPA are admitted to our colleges and universities. This gets us back to where we started with the "maybe college/university is not for you" (or "how did you get in here") punch line except this time we are in a better conceptual position to understand how just plain dated (charitably) or how far out of touch, out of date, and unethical the punch line perspective is. As well, we are equipped to better understand more of what contributes to student success or challenge with post-secondary transitions by sorting out readiness issues and (developmental) preparedness issues and being able to more properly assign high school responsibilities, college/university responsibilities, student responsibilities and even parental, socio-historical, and cultural responsibilities. So, let's look at a number of approaches and initiatives that are intended to reduce issues with post-secondary transition and try and sort out their active ingredients.

General Indicators -- It's the GPA Stupid!

The Figure 1 above and the "joke" punchline discussed earlier both reflect aspects of this rather simple view of what contributes to problems with post-secondary transition. Basically, high school students with higher graduation grade point averages are more likely to manage their transitions to post-secondary endeavors well and to perform well in their post-secondary studies. There is no denying that when high-flying high school students do well in college or university it is easy to simply say that they *have what it takes* and that they *belong* in (high ranked) post-secondary educational settings – they basically have no issues with their post-secondary transitions. However, such a tight focus limited to GPA does not help us understand why some high-flying students struggle when they enter their post-secondary studies. It also short circuits any effort to search for the sorts of things that may be acting as barriers to more students doing well in high school and transitioning well to post-secondary life and it also suggests that any students who do not feel ready to go to a trade school or college or university immediately after graduation should accept that they will never do so. Beyond limiting hope of post-secondary studies to the appropriately privileged, this perspective can give rise to pre-transition advice that is based on the correlational reasoning that taking more advanced high school courses (as high

GPA students typically do) might be a good way for *all* interested students to prepare for their post-secondary transitions. Advice to take many senior "hard" academic (science) courses or showing data indicating that taking one or more advanced course sequences (20-30-30+) produce significant SAT test score bumps which raise rates of upper tier university acceptances (Schneider, B., Kirst, M., & Hess, 2003) are examples of not particularly helpful "applications" of this undifferentiated approach to understanding and intervention.

Broader Focus: Readiness via Preparedness

The cumulative expanse of the "Readiness Gap" depicted in Figure 1 above is quite daunting and, not surprisingly, especially when added to the poor college/university graduation rates for unready students, it has given rise to a number of large-scale initiatives to try and understand and then address the gap. David Conley at the Oregon Center for Educational Policy Research has constructed a detailed analysis of what it takes for students to transition positive and to succeed in college/university and beyond in their chosen career paths (Conley, 2008, 2010, 2013). Conley suggests that being ready for college/university success is founded on much more than just grades. He identifies 4 groups of things that who are college/university ready must possess. The four groups are:

1. **Key Cognitive Strategies**: including problem formation, research, interpretation, communication and precision/accuracy
2. **Key Content Knowledge:** including foundational knowledge in English/language arts, mathematics, science, social sciences, world languages and the arts
3. **Academic Behaviors:** including self-management skills, attitudes, and habits necessary to meet the challenges of college/university workload and rigor.
4. **Contextual Knowledge:** including the privileged information necessary to navigate college/university admissions and financial aid processes and to understand how such institutions operate a systems or cultures.

Conley consults with education systems at the state/provincial level and as such each of the four readiness areas are typically operationalized in terms of state/provincial policy or as school policy guidelines. Through his website schools can access a CollegeCareerReady Diagnostic tool which they can use to review their current policies and practices and develop plans for upgrading

their school culture, policies and practices in order to optimize the college/university readiness of their students. Evaluation data suggests that this approach has significantly narrowed the readiness gap in jurisdictions that have taken up Conley's system, tools and principles (Conley, McGaughy, Kirtner, van der Valk, & Martinez-Wenzl, 2010, Lombardi, Conley, Seburn & Downs, 2013). What is missing from this broad perspective on optimizing post-secondary transitions is reflected in Conley's use of the term *readiness* to refer to what students need. The top-down school level focus of this approach, while clearly accessible (as intended) by principals and administrators, does not distinguish between issues and practices of readiness and preparedness and as such also does not speak to the central role that student development and student experience plays in the lead up to transition, transition itself, and adaptation following transition. Essentially, this approach is an expansion of the one discussed in the previous section -- an "Its grades AND these four things" approach. Without a developmental foundation this approach looks a bit like the list handed to participants in a scavenger hunt which contains the things they must find lying around in their high schools before they are to be considered ready to leave and head off on their post-secondary life adventures.

Learning about Transition (and Development) Through Remediation: Habits of Mind

Another large scale approach to addressing the "Readiness Gap" emerged on the other (college/university) side of the post-secondary transition gulf and was put together a step closer to the students actually adapting to their post-secondary transitions as it was developed by instructors teaching "remedial" classes to the large proportions of students caught in the "Readiness Gap," mainly in 2-year college settings. Remedial courses at many post-secondary institutions are intended to bring under-prepared students up to college/university level speed in core courses like English and Mathematics so that they can then take "real" college/university courses in those core disciplines. While this sort of 'helping students get what they did not acquire while in high school" approach seems on its face to be a preparedness focused approach, there is more to it than that. When the people teaching those courses got together and started to compare and discuss their experiences in teaching such classes a number of important things emerged. One thing that emerged from those discussions was a clear appreciation that what is going on in those classes is much better described as *developmental* rather than remedial. The Bill and Melinda Gates Foundation (2021, https://postsecondary.gatesfoundation.org/areas-of-

focus/innovation/remedial-education/) refers to remedial education as *DEVELOPMENTAL* Education. Rather than simply bringing students up to speed on some course content they perhaps skipped or did not absorb while in high school, remedial course instructors came to appreciate that they were not so much assisting their students in catching up as they were encouraging or mentoring their students through developmental transitions necessary if the students were to fully comprehend and benefit from post-secondary learning processes and opportunities (Allen, 2017; Costa & Kallick, 2009; Fletcher, 2013).

Essentially, as picked up by the Gates Foundation, those teaching and researching the experiences of students taking these "remedial" classes tell us that developmental approaches are NOT simply remedial approaches. While the former may include aspects of the latter, developmental approaches are broader, more foundational, and are more about helping students (or just people) to move themselves up to a new developmental level of reflection, insight and functional complexity, to find another gear as it were, and, in so doing, to see the purpose and point in whatever has been tossed into their remedial buckets, to see such tasks as important backfill for the developmental step they are building, have built or are being encouraged to start building in order to smooth their onward developmental/personal life design and construction processes.

Gerald Graff, in his book Clueless in Academe, (2008) argues that academics hide and otherwise obscure their processes, ways of thinking and ways of doing research. While this may be somewhat true, it is definitely NOT the case that academics are conspiratorially engaged in running a massive Easter egg hunt for the wave after wave of students that pass through their colleges/universities. Largely academics are just much more interested in doing what they are doing in the way of thinking and research rather than telling people how they figured out how to do what they are doing. One of the biggest cultural differences between high school and university environments is that for high school teachers their domain knowledge is wholly secondary to their engagement in encouraging their students and in working to get them engaged in building their own version of the domain knowledge and practices on offer in each subject area. While a number of university professors have the same commitment, most do not. Especially at "research universities," their primary purpose is to be the focused and active

crafters and shapers of the cutting edges in their disciplines. For many of them the culture of the academy and its typical merit processes are constantly reminding them of the importance of everything that they do (to themselves, their institution and to the world) except teaching. The overwhelming "educational" sense is that students are (or should feel) blessed and privileged to be tolerated at worst and invited at best to huddle close to the blazing flames of scholarly advancements and, in so doing perhaps pick up a spark or two of their own. So, it is not that students are clueless it is, rather, that they do not see how they belong or how anything they could get close to (hopefully without being engulfed by it) could provide them with anything that would be of use to them once they pass though the academy and emerge out the other side into life and employment (assuming they do not elect to stay in the academy).

The above detailed understanding of the nature of college/university learning environments and the clear differences between them and high school learning environments is what gave rise to the distinction between *post-secondary readiness* and *post-secondary preparedness* discussed earlier in this paper and to the central role that development, associated with such things as higher order thinking, plays in a full and proper definition of what we should understand Post-Secondary Readiness/Preparedness to involve. The results are the closely related Habits of Mind and Bridging approaches to understanding AND working with student readiness and preparedness (Altan & Lane J.F., 2023; Allen, 2017; Costa & Kallick, 2009; Fletcher, 2013; Kirst & Venezia, 200; Voon & Wong, 2015).

The Bridging approach parallels Conley's top-down focus but speaks more directly to things high school students should be working on, or should be helped to be working on, to prepare for the coming transition to post-secondary endeavors. Table 1 below shows the proposed list of required skills. Readiness issues are imbedded in the table as both Metacognition and Executive Function are developmental (readiness) matters related to higher order thinking.

Table 1

Skill Required for Successful Transition	
Academic Skills	The possession of critical key content knowledge and the ability to read and write independently
Self-Understanding (Metacognition)	The understanding of one's strengths and weaknesses
Key Cognitive Strategies	The ability to analyse and think out of the box
Self-Advocacy	The ability to recognise the need to acquire help independently
Executive Functions	The possession of key self-management skills
Motivation and Confidence	The ability to set goals and attain them
Key Knowledge about post-secondary education	The knowledge of the expectations required in college (i.e financially, academically and socially)

The Habits of Mind approach, arising as it does out of direct and ongoing (remedial course length) contact with students engaged in the processes of development/getting-ready and preparing for college/university level courses, links its suggestions more closely to student experience and as such is more amenable to applications on either side of the to-post-secondary transition gap. So, what are Habits of Mind? Well, a pair of education researchers (Costa, & Kallick, 2009) asked college/university instructors how they would like their students to *be* and the typical responses they received are listed below.

- Be independent thinkers; think before they act.
- Be more self-motivated.
- Be more inquisitive.
- Pay attention to detail; take pride in work.
- Be more diligent and persistent.
- Enjoy working through the work.
- Think for themselves; not always follow another's lead.
- Generate their own thoughts.
- Be self-directed; use strategies of problem solving.
- Transfer knowledge and apply to new situations.
- Have confidence; be able to take risks.
- Support answers so that they can show evidence of their thinking.
- Communicate with each other; work it out together.

These competencies (a mix of skills and developmental acquisitions) reflect Habits of Mind which can be viewed as character issues, or as mind sets, or as developmental insights or acquisitions. The researchers (Costa, & Kallick, 2009; Zmuda, Costa, & Kallick, 2023) then go on to articulate just what these Habits of Mind might be seen to include, and they present their list of habits in the form of things that students themselves could and should be looking for, working on and perfecting.

Habits of Mind

Persisting: try and try again, continue especially when the outcome is unclear

Manage Impulsivity: read task, reflect, prepare review task THEN go

Listen with understanding and empathy: to those you are working with to how they feel AND to how YOU feel

Think Flexibly: what alternatives are there to this?

Think about Thinking: (Metacognition) reflect on your organization skills and on your planes and you approach

Strive for Accuracy: Tick off as you go (so you need a list right!) execute each step carefully and precisely

Question and Pose Problems: Think of options, evaluate outcomes, contemplate possible improvements

Apply Past Knowledge to New Situations: Have you done this or something like it before, did you learn anything there that could be of assistance to you now?

Think and Communicate with Clarity and Precision: Name and define what you are doing along the way

Gather Data Through All Senses: (cognitive/feeling/reflecting) modalities

Create, Imagine, Innovate: change plans to suit local conditions

Respond with Wonderment and Awe: to the world, search for/seek out diversity and soak it up, it will help in ways you cannot imaging

Take Responsible Risks: i.e., bring the previous one home!

Finding Humor: everyone makes mistakes, see the funny side when you do and then move on/ try again

Think Interdependently: do not be a loner Ask/Listen/Share

Remain Open to Continuous Learning: always always always find something new you can learn

The Habits of Mind approach to Post-Secondary Readiness/Preparedness, is similar to character education models (Berkowitz, 2002; Berkowitz and Bier, 2005; Schnorr, 2009) in that it involves a blended approach which includes a developmental component (understanding and pitching instructional and experiential content at developmental levels appropriate to the particular student recipients) and a school or organizational culture component in order to ensure that everyone, teachers and students alike both talk and talk AND walk the walk of higher level thinking. If we revisit the transition management take-aways from my earlier discussion of the transition into grade-school it is clear that something like the Habits of Mind approach, by working on both sides of the post-secondary transition and by including a clear developmental perspective is largely getting this later, leaving K to 12, transition challenge right.

1. Transition success is a matter of BOTH readiness and preparedness
2. Be clear about whether you are working with your students on preparedness or scaffolding the developmental emergence of readiness as they involve quite different things.
3. Most of the things you can do in relation to readiness are going to be focused upon activities, tasks and competencies that are developmental precursors to things that will only emerge near or even after transition to become core features of students' hopefully successful post-transition adaptation.

It is interesting (and perhaps somewhat ironic) that this rather large list of things (Habits of Mind) that students in high school could be encouraged to work on and which high school teachers could endeavor to build in to their teaching practice in order to better prepare students for smoother transitions to post-secondary life arose largely from the reflective practice of those teaching in "remedial" *college* programs. This is most certainly more constructive than the

punchline discussed earlier in that it at least suggests some things that can be worked on at the high school level rather than simply focusing upon GPA grounded selection criteria in order to ensure that most who arrive at trade school, college or university will be able to manage things there. However, as with the punchline, and outside of the remedial programs (largely relegated to junior colleges), there is nothing here that effectively shifts universities from being viewed as, and thinking of themselves as, intuitions by and for the intellectually and otherwise privileged elites. While worded perhaps a bit more harshly than is fair, the fact that the majority of young people these days require some post-secondary training/ educational experiences if they are to successfully enter the workforce and become contributing adult members of their communities means that we, working on the post-secondary side of things, cannot just keep tossing blame for student ill-preparedness back over the transition fence into the K-12 system. We need to figure out what learning hopes and expectations are being held for students within post-secondary learning environments, how these are the same and different from those in secondary learning environments and what sorts of conversations we need to start having across the transition gap from secondary to post-secondary learning environments and life itself. A partial solution to this part of the big picture problem of how to smooth and optimize the transition to post-secondary life may be found in the work on what is referred to as transformative learning.

Transformative Learning: Learning Which is Done by Adults and is Lifelong

The concept of transformative learning was introduced by an education researcher who was initially interested in the experiences of women returning to post-secondary studies or to the workplace after an extended period of time (Mezirow, 1978, 1991). Like others who looked at people moving into radically different spheres of experience (Illeris, 2013, 2014, 2018; 2020), the researcher noted that the women returning to work or going into advanced education settings did not just learn local skills or add to their existing knowledge base but rather experienced a consciousness shift as they encountered assumptions about themselves and others and about the nature and organization of social power structures in those settings that they found challenging or that they wished to challenge. They did not simply learn about their studies or their jobs they learned about themselves and the world around them and as a result they changed their understandings, their meaning systems and, over time, those of others around them and those imbedded in the educational and organization systems they found themselves within (Illeris,

2013, 2020; Desapio, 2017). The focus of this initial transformative perspective on learning had a distinctly cognitive feel and focus, involving thinking and critical self-refection on one's own knowledge and ways of knowing as well as on those of the people institutions, organizations and disciplines around them (Merriam, 2004; Kitchenham, 2008). The general model has been expanded to include looking at the ways in which affective, emotional and social factors are wrapped within and influenced by transformative learning (Mezirow, 2009; Illeris, 2013, 2014, 2018). So, at its core, transformative learning involves changes and challenges to learners' frames of reference, meaning perspectives, and habits of mind; i.e., how one builds, evaluates and manages one's frames and perspectives and critically reviews those of others (Illeris, 2018; Mezirow, 2006; Taylor, 2008) rather than just what one knows.

Certainly, this notion of thinking critically, not just about one's own or others' facts but also about the foundational assumptions underlying one's own knowledge at a minimum and those of one's discipline and culture potentially as well, sounds like the highbrow type of inquiry one would expect to find in elite academic institutions. Transformative learning is also considered *adult* learning which fits with the assumption that post-secondary life and its related education institutions are adult places – places where adults create rather than just consume knowledge. Post-secondary transitioning students who enter these learning environments may get a glimpse of the fact that the professors, instructors and students already there are parts of a large number of practice communities (trades, academies, disciplines etc.) and students have an opportunity not just to acquire knowledge but to learn the sociocultural practices through which knowledge is created, challenged and maintained in their respective disciplines (Cranton, 2016).

It very much seems like the sorts of things that go on within post-secondary educational institutions (in universities at least) are qualitatively different than what goes on in the K-12 system. Even if transitioning students were diligently prepared for their post-secondary educational environments and arrive appropriately equipped with armloads (heads full) of Mind Habits, there is still this mater of the gap defined by qualitative differences in knowledge and educational practice and expectations that they must negotiate. What can we do to ensure that graduating secondary students' adaptations to post-secondary life are as painless and as effective as possible? Well, we can do the same thing we figured out to do with preschoolers as they

become “schoolers” and enter grade 1 – we can understand that a big part of what will make their transition possible and manageable for them is developmental or, in other words, up to them (with scaffolded assistance, of course). Developmental advancement is, of course, a fundamental form of transformation. A preschooler who has a wealth of experience with play, literacy experiences and so much else, with the onset of basic logical thinking, is able to transform all of what they know into systems and logical categories and is thus able to contend with arithmetic and reading which open up veritable floodgates of new learning opportunities that a good K-12 system will facilitate their access to and progress through.

Recently those working in the Transformative Learning domain have begun to ask and consider an important question: Just what is it that is transformed in Transformative Learning (Kegan, 2014)? Would it surprise you to hear that the front-running avenue for addressing the “what is transformed” question is developmental? It focusses upon identity -- personal identity -- as that which initially makes transformative learning possible and which then becomes the central part of what is transformed through “adult,” post-secondary, lifelong learning (Illeris, 2013, 2014, 2018, 2020; DeSapio, 2017). Essentially the developmental emergence of the ability to seriously consider and take up matters of personal identity makes it possible for students to begin to see and understand the transformative possibilities within advanced learning and this starts them on a new (qualitatively distinct) lifelong developmental pathway that they will create as they go. Unlike earlier developmental moments that, while involving qualitative changes in understanding, thinking, feeling and action, were just steps towards further, future, developmental changes, this arrival at the developmental moment that involves personal identity occurs when we have historically suggested that developing youth are arriving at maturity or entering adulthood. But, instead of saying they have arrived, better to follow the lead of Peter Arnett (2006, 2014) who has suggested that utilizing a new stage of emerging adulthood which runs from 18 to 25 or 29 years of age, it is perhaps better to speak of graduating high school students as entering the threshold of adulthood and commencing a lifelong process of transformative learning, being, and making meaning in the world. Getting started on that is a developmental process and taking it up and applying it within one’s own life and thus gaining experience with it is a *lifelong* process. In order to understand it and to know how best to assist and to encourage emerging adults into and through this post-secondary transition we need to

know how it is experienced by high school graduates themselves because we need to understand what they need to do in order to effectively move themselves through this transitional portal and on into their adult lives in a world that is not the same as the one we moved into at their age. How do we do that? Well, to start with, we need a view of the bigger developmental picture surrounding transitions to post-secondary life.

A Bigger Developmental Picture Surrounding Transitions to Post-Secondary Life

Before going on to talk about specific course level initiatives related to development/readiness and preparedness for post-secondary transitions it would be helpful to pause for a moment and consider the developmental opportunities and challenges students are facing as they move through and between our formal educational systems and institutions. Yes, there is, in fact, more to life than school, though school IS a huge part of life. The psychosocial theory of development, originally constructed by Erikson (1963, 1968), paints a big picture overview of development. Its name reflects its main core construct that the developmental challenges and opportunities encountered as one moves through time arise out of the interaction between psychological developmental and reflective processes, such as basic logic and higher order thinking, and the array of large and small social, cultural, and historical forces that surround and interact with the developing individual. Parents, peers and teachers are among the social influences but so are school systems, governments, economies, world events, and social media.

At different points in life (well at every point in life actually), individual development interacts with social/cultural opportunities, demands and influences and produces crises or developmental moments that can be viewed as individual decision points but are better seen as forks in people's developmental or life pathways. For example, the first stage or fork is about Basic Trust (or Mistrust). Over their first two years of life, as a result of the nature of the attachment relationship that forms (or does not form) between themselves and their primary caregivers, infants develop and internalize a model of relationships in their social world. This model of relationships in the social world includes assumptions about whether the toddlers themselves are care-worthy, whether the other (bigger) people around them can be trusted and whether relationships in general are to be valued and relied upon, avoided as dangerous or ignored as of no use or consequence. The resulting internal working model of social trust and relationships will

influence how that individual approaches and manages all their subsequent relationships including early peer play, grade school friendships, adolescent peer group interactions, close friendships, intimate relationships and eventually, how one acts as a parent of their own children (Gillath, Karantzas & Fraley, 2016). If the early attachment relationship outcome is not good changes *can* be made later but they require strong positive influence from another strong attachment relationship, or therapy, or an opportunity for self-reflection made possible by the sort of higher order thinking that may arise in adolescence, which, when contemplating one's possible future as a parent, can give rise to the personal realization that "I have to be different – to be a different parent than the parent(s) I had" (Schatz & Lounds, 2007; Szepsenwol, Simpson, Griskevicious & Raby, 2015; Goldberg, 2014).

Life moves on or you move on along your life path whether you are ready or not, whether you are optimally prepared to do so or not, but there are later arriving forks in the developmental road or life pathway where other choices can be made, including working on jettisoning nasty acquired baggage and constructing new ways of being. Erikson's full 8 stage Psychosocial model of Life Development is shown below.

Table 2

Erikson's full 8 stage Psychosocial model of Life Development

Stage	Psychosocial Crisis	Basic Virtue	Age
1	Trust vs. mistrust	Hope	Infancy (o to1 ½)
2	Autonomy vs. shame	Will	Early Childhood (1 ½ to3
3	Initiative vs. guilt	Purpose	Play Age (3 to 5)
4	Industry vs. inferiority	Competency	School Age (5 to 12)
5	Ego identity vs. Role Confusion	Fidelity	Adolescence (12 to 18)
6	Intimacy vs. isolation	Love	Young Adult (18 to 40)
7	Generativity vs. stagnation	Care	Adult hood(40 to 65)
8	Ego integrity vs. despair	Wisdom	Maturity (65+)

Table from: https://www.simplypsychology.org/Erik-Erikson.html

Erikson's model is often described as broad and descriptive but short on developmental detail or on clarity as to the sorts of things that actually facilitate or drive development forward. It does, however, provide a useful context for identifying and considering specific life transitions like the entry into Grade 1 and the jump from high school to post-secondary pursuits. Earlier, I discussed how the cognitive developmental emergence of basic logic makes contending positively with primary school tasks like arithmetic and reading possible but, of course, there is much more to how things go in grade 1 than just that. Erikson's model (along with Bronfenbrenner's Ecological Systems Model, Bronfenbrenner, 1979) points us towards many of the other things we should attend to and assess if we want to properly predict school readiness and preparedness.

How parents handle the autonomy tests and demands of the "terrible twos" is one such area that leads directly into consideration of parenting styles and degrees of (over)protectiveness that can strongly influence how things go in grade one but can also influence how things go through the rest of school and through and beyond the shift to post-secondary life endeavors as well. Preschool social connections and opportunities for shared social, make believe play and creative expression lay down some early habits of being that can influence whether grade 1 is experienced as a challenge or an opportunity. Important as well is the emergence of basic logic which makes it possible to begin to systematize one's purpose and take on larger, longer-term learning projects like reading, mathematics, social studies and science. Cognitive (thinking) advances make new things possible and psychosocial forces influence how those new things proceed motivationally and emotionally for the individual children who move towards, into and through their primary school years. There is a lot that can be done to optimize life transitions for our children, our students and ourselves while we wait for the emergence of the developmental competencies that can serve as the springboards (or rockets) to launch them or us to higher life trajectories.

So, what does this bigger developmental picture have to suggest to us about the transition to post-secondary life? Erikson identified the task of forming a personal identity as the central developmental task of youth (adolescence and emerging adulthood). He defined it not just as an internal psychological task of personality or self-construction but, rather, as a psychosocial task that involves internal individual psychological aspects such as reflection but also includes the

idea that all that takes place in a complex nexus of social relationships with parents, peers, teachers, neighbors, media, and sociocultural forces to name a few. The resulting identity, while individually held and lived, is socially and psychologically co-constructed or, we could say it is built both out of what the individual finds inside themselves and out of stuff they find lying around or see emerging in the near future. There is also some realization that the identity that is built will be put on or enacted in the current and future social worlds we find ourselves within. As such, there usually are social or relational consequences to the identity choices or commitments we make.

Developmentally there are a number of things that (may) emerge and influence the identity formation processes. Higher order thinking or meta-cognition is a necessary facilitative part of the depth and intensity of critical reflection that the identity formation process requires. In the area of thinking, youth become capable of metacognition or thinking about thinking, and monitoring, and evaluating, their thinking. They become capable of analyzing their thoughts and ideas for internal and logical consistency and comparing one premise, idea, concept or theory to another – essentially their critical thinking skills emerge and are consolidated. They become capable of going beyond the data, beyond examples or instances they have directly or indirectly experienced and become able to think in terms of logical possibilities which open creative potential and is reflected in a routinely observed jump in interest in speculative and science fiction and fantasy novels and related opportunities to mentally play with possibility. Erikson pointed to this sort of higher order thinking in the form of Jean Piaget's concept of Formal Operational Reasoning as a way of helping to understand that identity development need not simply involve making choices among existing alternative but may also involve the creative envisioning of new identity opportunities (Boyes and Chandler, 1992).

However, there is more to identity development than just deeper, more complex, creative thinking, just as was noted in relation to Transformative Learning, there is more to the developmental shifts that make identity possible than higher order cognitive competence. Especially relevant to education are developmental changes in one's epistemological assumptions and understandings. Developmentally previous assumptions about the nature of knowledge view it all as factually based and as such basically lying around for all who care to

seek it to find it and acquire it. This sort of realistic, factual, or dualistic (right/wrong) view of knowledge is what leads some post-secondary students to believe that their instructors/professors are (strategically rather than maliciously) hiding knowledge from them and that finding it is what makes post-secondary study, for them, a sort of Easter egg hunt which becomes increasingly frustrating when they cannot seem to find the truth lying around and their instructors/professors do not seem to be inclined to point it out or hand it over in time for the students to return it to them on exams. Realizing and coming to terms with the epistemological insight that much of knowledge is relative or enmeshed within particular cultural, theoretic, or disciplinary perspectives or sets of assumptions is the core challenge in developing one's epistemological perspective (Boyes & Chandler, 1992; Chandler, Boyes & Ball, 1990) or reflective judgement skills (King & Kitchener, 1994; 2002; 2004). Developing one's epistemological insights and related reasoning capacities are an important part of figuring out how to get along developmentally not just in post-secondary studies but in the diverse world we find ourselves in today.

In addition to the above, there are significant socioemotional changes occurring as well as adolescents, and then young or emerging adults, move towards independence from their families and into more autonomous peer connections. Self-regulation, emotional and risk management (Steinberg, 2005; Steinberg, et al., 2018) are all intertwined aspects of the developmental changes leading up to and through the transition to post-secondary life. Identity development or identity building occurs at the nexus of all of these developmental changes and challenges.

The identity formation moment involves far more than simply picking a post-secondary education/training/career path (though that IS a part of it). Utilizing the increasingly complex and critical perspectives emerging developmentally, the late-adolescent/emerging adult looks back at who they have been and where they have come from; around themselves at where they are and who and what is around them; and forward into the foggy array of options opportunities and possibilities, considers their options, in terms of their own skills, likes, dislikes and those of others with whom they are connected relationally, socially and culturally, and they start trying things on for size. Erikson (1963, 1968) and Marcia (1993) talked about a substage of identity development called Moratorium in which this exploration and investigation occurs, and which

leads, eventually to a status of Achieved identity. The social and cognitive skills developed, deployed, and honed through the exploratory (trying on for size) processes remain in the emerging adult's repertoire and can be applied to other parts so their identity construction enterprise (e.g., choosing a major, defining a career path, getting a job, making spiritual choices, political choices, relationship choices and personal positions on issues and matters of the day) or they can be re-engaged when personal, local or global circumstances change (e.g., job loss though economic downturn or globalization related shuffling of work roles) and used to find a new direction or purpose. The potentially lifelong nature of the identity formation process skills and competencies discovered and tested through the initial identity formation process is captured by Berzonsky's (1989, 1993; Berzonsky and Kuk, 2000, 2022; Berzonsky, & Papini, 2015) characterization of identity styles and his Informational Identity Style in particular is an apt description of collection of competencies, skills and abilities that individuals carry forward into adulthood after having passed through a Moratorium phase and Achieved a personal identity

Of course, not everyone takes on the identity formation process with this sort of developmental full court press. The Moratorium to Achieved Identity status approach requires an internal drive or sense of purpose that is informed by the cognitive and epistemic developmental insights described earlier and which leads to a realization that by individually contending with the psychosocial challenge that the identity formation process can entail one will literally *make* their way in the world. Those who have not yet gained the developmental perspectives necessary to find their way through the entrance to the Moratorium status or the means for taking up an Informational Identity Style are uncertain as to how to proceed and are referred to by Erikson and Marcia as being in a Diffused status and by Berzonsky as having a Diffused and Confused identity style. It is not that Diffused individuals have simply yet to make identity related choices but rather that, given their developmental status, they do not have the conceptual insights and related reflective tools necessary to understand how to even get started on their identity formation processes.

Alternatively, other individuals deal with the socio-cultural expectation (driven by parents, peers, teachers, and cultural expectations in general) that now is the time for them to make choices as to life direction by choosing to do what they have always known (and/or been told) they would do

(e.g., go into the family business, work at becoming a lawyer, doctor, teacher, or enter a trade). Erikson described these individuals as Foreclosed in that they had made their choices or had their choices of career path or political persuasion or whatever picked for them much earlier in life and had not engaged in the exploratory processes that define the Moratorium Status. Erikson's view of the nature of Foreclosure has often been simplified as reflecting young people doing what their parents have always told them they would do. That is an over-simplification. Berzonsky provides a more nuanced understanding of these individuals by describing them as having a Normative Identity Style. When the need for an identity or life decision arises, these individuals look around to see what others are doing or seek out a pathway or choice that is defined and well-marked. Their normative focus thus may lead them to seize on the pathway their family has drawn out for them or they may be drawn to pathways that are clearly defined socially such as career pathways laid out through engineering or business or other professional schools or faculties or social positions that are clearly defined locally such as being pro-oil because you are living in Alberta. As the pathways into career and adulthood are more clearly signposted in theses sorts of areas, Foreclosed or Normative Identify Styled individuals are typically less anxious about the process as it is more externally defined and does not require the sort of intense diligence of an Informational approach. As well, Normative choices come with a locally or disciplinary defined purpose and direction and as such individuals operating within this style or status also have less of the uncertainty and associated anxieties experienced by Diffused individuals who are not clear on how to even get started on the psychosocial tasks of life decision-making.

All of this gives us something critically important that is not provided by any of the other perspectives on post-secondary transition discussed earlier – it gives us a way of understanding how the young individuals who are crossing the gap that is the post-secondary transition are engaging with the broad array of psychosocial demands being placed upon them and the extent to which they are able to deploy some of their newly acquired developmental insights and skills to facilitate their post-transition adaptation, their identity formation, and their life planning and engagement.

Think of it this way: post-transition, emerging adults are essentially alone in a sea of life possibility. Their futures, especially in recent years given labour market changes, globalization, and the shift to an information age economy, are shrouded in fog -- the potential destinations for their life journeys not visible and may not even exist yet in the case of many jobs. How do they take on this difficult task of setting the direction of their life-journey? How they approach it depends on their developmental status expressed in the array of areas discussed above and their developmental status essentially defines where the fog that is shrouding their navigation planning resides. For Moratorium status or Informational Styled individuals, the fog is distant but nevertheless obscuring views of their eventual destinations. Not being able to set course by aiming at a clearly visible destination they find or figure out a version of the advice offered by developmental life design coaches that they must construct a life compass (Burnett and Evans, 2016, 2020). Such a compass is comprised of the realization that a psychosocial sense of purpose and direction -- an identity which could still be a work in progress -- can point out a course into the future. It makes it possible for them to feel they are moving in the right direction even if they are not sure where they will end up. They are the navigators of their life-journies.

For Foreclosed or Normatively Styled individuals the fog is more local making it even harder for them to see let alone navigate a course forward. They have dealt with this by choosing (or being chosen for) a particular navy or armada that has a purpose and a direction. While there is uncertainty about exactly where they will end up all they need to do to be reassured that all will be well is to look out of their bridge windows and see the fleet of which they are a part confidently steaming forward, on a course into the future. While the uniformity of action and purpose may give rise, upon later personal reflection, to some sort of midlife crisis, in the meantime, they have a life direction. Finally, for Diffused Status/styled individuals who have not yet attained the developmental advances necessary to unlock the tools for constructing a personal identity the fog is, essentially, within their own heads and will only clear when they take the developmental steps necessary for them to push the fog away somewhat and begin to takes steps to chart a way forward.

We can see the importance of considering emerging adults' developmental status for how they manage their transitions to post-secondary life by looking at how these identity styles are

distributed among first year university students in their first months on the other side of the post-secondary transition gap. Based on data gathered as part of a larger study of student post-secondary transition gap adaptation, nearly 3,000 University of Calgary students in first year Psychology courses (since 2013) were asked to complete a survey with questions looking at their identity styles, their coping strategies, their adjustment in a number of areas and their awareness of and utilization of the broad array of support services and support options available to universality students.

Only about 15 to 20% of the students in first year Psychology classes are Psychology majors. The rest are a reasonably representative sample of students from many of the other major programs on campus (though a little light on engineers who typically do not get space for out of discipline electives in their first two years of study). Details of that dataset are available upon request, but a few key findings are worth describing here. First, about 45% of the first-year students were found to be using a Diffused identity style and the rest were about equally divided between the Normative and the Informational Styles. In terms of their coping styles, Diffused individuals were more likely than those using the other two styles to use avoidant coping strategies such as ignoring problems or using distraction strategies like video gaming.

The adjustment inventory was used (the College Adjustment Scales; Pinkney,1992) to assess functioning along 9 dimensions including Stress, Academic Problems, Anxiety/Depression, and Substance Use to name a few. Individuals scoring over the 85th percentile on a scale according to the general post-secondary student norms for the measure are categorized as potentially in need of assistance in that area perhaps through a referral to the campus counseling or student success centers. The results in relation to this measure were very clear: 65% of the Normative and Informational Styled students were over the 85th percentile on either 0 or 1 subscale. In sharp contrast, 65% of the Diffused students were over the 85th percentile of 2 or more of the scales and the distribution of numbers of problematic scale scores was spread from two right up to 9 meaning they were not all just presenting with two areas of concern. When asked if they were aware of the array of potentially supporting resources available to them on their campus all respondents regardless of identity style stated that they were aware of the existence of most of the resources that were listed. However, when asked how many of those resources they had

accessed the Informational Styled students had accessed the most followed by the Normative styled students and then by the Diffused Styled students. As well, the Diffused styles students were more likely to have included in the "accessed" list resources that were characterized as "self-help" such as talking to friends or looking for options or suggestions online rather than accessing services specifically tailored to their adjustment problems.

So, as we begin the conversations we need to have about how to better understand the nature of the post-secondary transition gap, how to better prepare high school students as they approach the gap, how to lessen the size of the gap, and how best to support, mentor, and talk with young emerging adults in the midst of coming to terms with their own transitions to post-secondary life I am hoping it is clear that we need to think about what those of us on either side of the gap can be doing and how we should be doing it AND we all need to be thinking about the developmental issues that are woven into the trajectories that young emerging adults follow as they navigate the transition and set their courses into adulthood. Finally, we need to find more ways to include current and recent emerging adults in our conversations because, as should be clear from the discussion of developmental issues herein, they are the ones doing the transition work, figuring out their identity, and working on finding their own direction and meaning in life. While we can provide support and even advice, they have to do the transition work.

Cross-Over Courses as Tools for Promoting Student Development/Readiness and Preparedness

In addition to remedial courses (discussed above), typically provided in 2-year college settings and aimed towards post-secondary learners who are not yet prepared for post-secondary courses discussed earlier, there are several other course related approaches to providing bridging experiences for students who are still in high school. International Baccalaureate (IB) courses and programs are typically run for high achieving students and fit within the "Its the GPA" perspective by making it possible for students to take the sorts of sequences of advanced courses in areas like Math and Science sequences that by themselves are positive additions to students academic records but which are also associated with higher SAT scores which increases the accessibility of higher tier university positions. Through their academic rigor and focus upon advanced levels of study, IB programs use entrance criteria that are in many ways reflective of

the entrance criteria employed by upper tier post-secondary education institutions (e.g., "name" universities) and thus attract high school students that are "ready" for serious university academic study. As such, they provide high functioning high school students with a valuable leg up on the post-secondary academic work they are largely already prepared and ready for at the time of their entrance into their IB programs. Such programs work well for the students who qualify for and attend them in the same way that universities have typically viewed IB program graduates as "their kind of people." A look back at Figure 1 above will remind us, however, that this group of students who are prepared and ready for post-secondary educational life accounts for only a minority of the population of high school students in general or of the proportion of them that will go on to some form of post-secondary education. As well, IB programs likely include practically none of the high school students who are less than optimally prepared or ready for their transitions to post-secondary life.

Advanced Placement courses taken by high school students involve a course experience focused upon advanced material in a specific core subject area such as Mathematics or English, and also in what might be thought of as elective areas such as Psychology. The courses typically lead to high school credit but, in addition, students take an exam in May set by the College Board (which also administers the SAT). Performance on AP exams are scored on a 5-point scale based on test performance compared to norms maintained by the College Board. Students receiving a score of 4 or 5 out of 5 will be granted advanced placement status in that course area which essentially means that are given credit for having "passed" a first-year university course. Most colleges and universities recognize this status and it enables students to move beyond the first-year course level in some areas or to take a wider array of junior courses in their early post-secondary years. While it is true that most AP descriptions offered to potential high-school AP participants suggest that an AP experience will help students "develop skills while in high school to get the most out of university or college (CBE, Frequently Asked Questions about AP), AP courses, beyond the level of their curricula (or things provided by individual teachers running AP courses), do not typically include any content specifically aimed at things that contribute to students' levels of preparedness or readiness for post-secondary transition. Like IB program completion, AP courses provide a sort of jumpstart to the post-secondary academic trajectories of high school students who are already prepared and ready for their post-secondary transitions.

Dual Credit courses have been in place for a number of years in trade related areas where they make it possible for students to have completed as much as a year of apprenticeship programming by the time they graduate high school. Dual credit courses involve collaboration between high schools and technical schools, colleges or universities as the students involved are taking actual versions of the post-secondary courses and receiving post-secondary credit for doing so from the hosting post-secondary institution in addition to upper-level high school course credit (thus the Dual Credit designation). This means that participating students are not just exposed to the level of course content they will encounter in their post-secondary educational settings but are given an opportunity to actively participate in one of those post-secondary educational settings while they take their Dual Credit courses. Having an experience on the other side of their impending post-secondary transition gap essentially provides highs school students with a scaffolded opportunity to see and experience the many contrasts between the demands, expectations, and opportunities of both sides of the gap thus providing them a clear personal impression of what they are heading towards. Actual experience with the other side of the post-secondary transition gap can provide opportunities for the students to encounter, understand, and begin to incorporate some of the noncognitive factors from the readiness side of the readiness/preparedness duality that add to the cognitive factors associated with preparedness. Whether this is what actually what happens within Dual Credit experiences is, of course, an empirical question.

Academic (as opposed to trade-focused) Dual Credit courses are relatively new in Canada, having first been offered in Ontario and only more recently, mainly on a pilot basis, in Alberta. There has been some high-quality, large scale research done examining the American Dual Credit experience. An and Taylor (2015; 2018) used several American national datasets (the Wabash National Study of Liberal Arts Education and the National Survey of Student Engagement) to examine the post-secondary transition experiences of students who had taken one or more Dual Credit course while in high school. These researchers started by pointing out that there are three distinct sorts of Dual Credit experiences:

1. **Singleton Experience**: Students took a single Dual Credit course as part of their senior years in high school.
2. **Comprehensive Experience**: Students took two or more Dual Credit courses while in high school
3. **Enhanced Experience**: Students took one or more Dual Credit course in high school but, in addition, received an additional range of support services integrated with the Dual Credit experience.

The researchers noted, as was discussed earlier in this paper, that successful post-secondary transitions involve both cognitive (academic) and noncognitive factors. Noncognitive preparedness/readiness transition factors can include positive self-concept, realistic self-appraisal, successfully handling the system, preference for long-term goals, availability of strong support person, leadership experience, community involvement, and knowledge acquired in a field (Sedlacek, 2004). Such *noncognitive* factors resemble some of what has been discussed above as developmental factors. Conley's model (2008, 2010, 2013), discussed earlier includes aspects of both of these factor categories within its four keys to post-secondary transition success. While the contributions of cognitive/academic factors to this success are clear the role of the noncognitive (developmental) factors is less obvious.

An and Taylor (2015, 2019) suggest that a Dual Credit course experience can help participants understand what it means to be a college or university student and provide some insights on how to navigate the post-secondary educational landscapes they may be moving towards. More specifically, Karp (2012) suggests that Dual Credit course experience helps students better understand the post-secondary educational system as well as to learn the normative rules and behaviors expected in those settings. Beyond study skills (which dual credit course experience can also provide), Dual Credit participants have been shown to work harder in the Dual Credit course(s) than in their other high school, courses (Medvide & Blustein, 2010) and to be less likely to take remedial courses at their first post-secondary educational setting (An and Taylor, 2015; 2019). Overall the results of An and Taylor's (2015) study supported previous findings suggesting:

> …that dual enrollment contributes to higher levels of students' academic motivation, stronger study habits, clearer college expectations, higher levels of engagement with college faculty, and academic knowledge and skills (An, 2015; Andrews, 2004; Huntley & Schuh, 2002–2003; Karp, 2012; Medvide & Blustein, 2010; Smith, 2007). However, [they] did not find that dual enrollment students displayed higher levels of Conley's (2012) key transition knowledge and skills. Although [their] data did not explain why, [they] speculate this may be a result of the type of dual enrollment students experienced. It is likely that many dual enrollees only experienced singleton courses where the types of college-going knowledge and skills might not have been a structured part of their dual enrollment experience (Bailey & Karp, 2003)."

In addition, An and Taylor (2015) add that "…most state dual enrollment policies do not require support services and structures that might improve students' key transition knowledge and skills (Borden et al., 2013). Therefore, policy makers and educators should consider designing dual enrollment programs that integrate topics related to transition knowledge and skills." To this I would suggest that we need to add the idea that dual credit experiences could also be built or enriched in ways that provide students with developmental (readiness) supports (nudges) or scaffolding beyond just providing them with experiences that simply add to their preparedness credentials.

Recently, there has been a jump in American research looking at the impacts of participation in dual credit (or dual enrollment) courses on high school students both during and in the years immediately following their transitions to post-secondary life. Such research is of particular interest as the provision of dual credit experiences by state educational systems is facilitated (driven) by federal grants. At the state and school district levels the demand for dual credit course experiences significantly outstrips capacity and as such most jurisdictions provide access to dual credit experiences via lottery. This approach is as fair as possible and it also creates a golden opportunity for studying the impact of dual credit experiences on participating students as the necessary lottery selection process also effectively randomly assigns students to the two group groups of research interest; a group receiving dual credit experiences and a randomly identical

control group who did not receive a dual credit experience. While the amalgamation of results across the state or school district levels does not support consideration of how such dua credit experiences might differ from district to district or school to school or class to class the results provide insight into what dual credit experiences can and do provide students. Available large-scale reviews of this research into the impacts of dual credit experiences indicate the following things regarding students with dual credit experiences (Ann and Taylor 2019; Schaller, Routon, Partridge, & Berry, 2023);

- more likely to attend a post-secondary education/training institution
- do so more quickly than students without a dual credit experience
- graduate/complete their post-secondary studies more quickly
- less likely to enroll in post-secondary remedial courses/programs
- show greater persistence in their post-secondary studies (year 1 to year 2 progression)
- show higher post-secondary GPA's
- show improvement in their high school GPA's during and following their involvement in a dual credit experience
- above impacts are greater for low income and minority students

The positive impacts of dual credit experiences and especially of enhanced dual credit experiences among American students are becoming increasingly clear.

Research that is available about Canadian Dual Credit courses reflects the same sorts of things shown in the American research. The large scale analysis of which students go on to post-secondary educational settings discussed earlier in this paper (King et al, 2009) indicated that, in Ontario, participation in a Dual Credit course increased the likelihood that students would continue educationally following their post-secondary transition and that this was true for BOTH high and middle achieving students leading the researchers to argue that Dual Credit courses should be made available to wider range of students and not just to academic high flyers (who are perhaps better served by AP or Baccalaureate programs). This was supported by research in a dissertation by Whitaker (2011) which showed that Dual Credit participants often did better in their Dual Credit courses than they did in their other high school courses and better in their Dual Credit courses than did their then college/university peers. In terms of success after their transitions to post-secondary education settings it was found that middle achievers benefitted

most from their participation in Dual Credit. Another dissertation research project (Philpott-Skilton, 2013) found that Dual Credit course participants who were designated as "at-risk" for post-secondary educational difficulties performed successfully at just below the level of the average first year student population despite their at-risk designation.

This research picture seems to be making it clear that dual credit experiences are beneficial for students in ways that clearly go beyond the "getting a head start" advantages afforded by completion of IB and AP courses. This suggests that dual credit dual credit experiences, in addition to adding additional credentials to students' post-secondary preparedness portfolios, are likely also supporting or scaffolding the development of students' readiness for transition to their post-secondary lives. What remains, if we are to go positively forward from here is to expand and clarify our understanding of what in a dual credit experience and especially what an enhanced dual credit experience encourages and scaffolds the development of students' readiness for their transitions to post-secondary life so that we can develop more of that and build more of that into students' high-school experiences.

Dual Credit and The Psychology of Everyday Life

The Psychology for Everyday Life course was originally developed (by the author, Mike Boyes) about 10 years ago as an introductory level Psychology course for non-majors. As it was not part of the standard Psychology undergraduate course stream, and thus not a pre-requisite for any higher-level Psychology courses, there were no standard curricular requirements other than it be appropriately challenging compared to other 200 (junior) level university courses. Once the course was established, individual instructors made their own decisions about what areas of psychology they would cover in the course. Most used some version of the question: What should people know about Psychology if this is going to be their only course in the discipline?" As such the course content varied in relation to the interests and areas of study of the individual instructors. Mike's version of the course, which served as the foundation for the version he developed with Melissa Boyce and Carolyn Mcleod for the dual credit offerings was a mix of what is referred to as a "adjustment" course and was a course, essentially, on psychological theories, concepts and applications related to the developmental and transitional experiences of young adults. The orienting course development question was something like: "What can

Psychology give students, who are soon to be crossing the post-secondary transitional gap, to think about that will help them to see and to positively navigate that transition and their life beyond." In other words, what can Psychology offer students that will help them to see and to understand what is going on for them developmentally (readiness) and to guide them towards personally taking up the challenge of figuring out how they can optimize their own post-secondary transitions (preparedness) and move, with purpose and confidence towards adulthood and their futures lives. Psychology, as a discipline, focusses upon human behavior and human functioning and as such the study of psychology by students provides ongoing opportunities for reflecting on human functioning in general and on one's own functioning in particular. That focus was sharpened as the Psychology for Everyday Life course experience was built around the application of developmental insights and perspectives on identity development, management of stress and coping, goal planning and striving, and the management of wellbeing and resilience. Course assignments involve student self-assessment and reflection upon their current identity styles, coping strategies, and future personal goal planning and engagement.

The aim was to provide, in this one course, a version of the sort of *enhanced dual credit experience* described above (An and Taylor, 2015, 2019) and to produce the sort of dual credit course experience that every senior high school or first year college or university student should have regardless of what else they take in the way of other dual credit courses or AP courses and regardless of the emerging nature of their post-secondary aims or directions. In addition, a related aim of this course and the research being conducted and planned around it and the experiences of its enrollees, is to identify course components and course related experiences, procedures and supports that could be harvested from this course and offered as part of a package of student, teacher (high school), and faculty (college/university) developmental catalysts, resources, and practice guides that could be wrapped around student experiences at both the secondary and post-secondary levels as well as being included within any single dual credit course, or combination of dual credit courses to make the enhanced dual credit experience that is Psychology for Everyday Life available to many more students. Work on these things will be a big part of the established and ongoing partnership between the University of Calgary and Fusion Collegiate Charter school and through that with Fusion's other post-secondary partners as well.

Research on Local Dual Credit Courses

As noted above, academic Dual Credit courses have been run in Alberta (Calgary) on a limited basis for the past 9 years. The University of Calgary initially offered sections of first year courses in Math, Physics and Psychology across a pilot period and, with upgraded support from Alberta Education, additional courses in Computer Science, English, Kinesiology, Business and History have been recent. A summary of the Dual Credit experience provided by the Psychology for Everyday Life (Psyc 203; Dual Credit) developed by Mike Boyes and Melissa Boyce at the University of Calgary and Carolyn Mcleod of the Rocky View School District is available in another document (Boyes, 2020, available upon request). In addition to providing some descriptive statistics of the various sections of the course offered, the document also examines qualitative data collected from course participants and a summary of an initial pilot study conducted with students from the first section of the course offered in the fall of 2015 and comparing some of their experiences to those of a large number of first year students gathered as part of an ongoing research project being conducted by Mike Boyes looking at student adjustment following the transition from high school to post-secondary life.

In 2019/20 an effort was undertaken to contact as many past participants in Psychology for Everyday Life (Psyc 203; Dual Credit) and ask them to complete the battery of identity, coping and adjustment measures that has been used to gather such data from students in introductory psychology courses at the University of Calgary since the Fall of 2013. Of the 135 students who completed the course over its first 4 iterations, survey responses were obtained from 49 of them who had graduated from high school. That resulting research paper is currently under review and should be available shortly.

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