Soft Skills in Literacy & Basic Skills Programs

A literature review

WELCOME

LBS agencies serve a wide variety of adult learners across Ontario and have been adopting the new Skills for Success curricula resources over the past year. To help understand the impact and importance of the five soft skills, CLO has partnered with Adaptimist Insights to review existing literature on the topic of soft skills training and its impact on adult education.

This literature review investigates best practices for incorporating psychoeducational programming into existing literacy programs. The objectives of the project are threefold: 1) to identify the key emotional and social deficits most associated with contemporary literacy challenges, 2) to make recommendations about specific soft skill remediations that could improve literacy at both the individual and group levels, and 3) to identify the mechanics necessary to deliver such programming in the most efficient way possible.

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Soft Skills in Literacy and Basic Skills (LBS) Programs

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Soft skills in community-based Literacy and Basics Skills programs

According to Employment Ontario (2024), Literacy and Basic Skills (LBS) encapsulates abilities such as communication (especially via reading and writing), numeracy, interpersonal and digital skills that help their practitioners reach important career goals. Under this definition, an adult learner who is adept in these areas would be able to express themselves in ways such that the meaning of their own expression is received as it had been intended. Adult learners who are challenged in one or more of these areas, would struggle to some degree to understand others and to themselves be understood. Not surprisingly, this has potentially serious implications for job performance due to the fundamentally social nature of the workplace.

The severity of these implications depends on depth and type of LBS challenges. In its most extreme case, a total absence of literacy skills, a person would have neither the words nor the semantics to understand their own personhood. They would be unable to comprehend the basics of language, including simple phrases such as "Good work!" (Kindl & Lenhard, 2023; Vágvölgyi et al., 2019). Most adults who have grown up in an industrialized society, however, possess some degree of literacy, if not always at a level others find sufficient (Perry, 2012). This suggests that reading comprehension and communication (either written or oral) exist on a continuum and that the degree of fluency an adult learner enjoys opens an increasing number of doors. Some researchers, however, have taken the position that there are no such lines to be drawn; rather one's state of literacy is determined by the characteristics of one's own society and, therein, the literacy to which is collectively reflected (Ardila et al., 2010). As new technologies such as instant messaging and social media arise and infiltrate the workplace, this

latter definition of literacy takes on increased relevance. As societal comprehension and communication needs change, the very definition of literacy changes with it. Indeed, occupational success may depend on the deployment of one's own LBS towards the benefit of one's profession as well as that of one's broader community (Crowley et al., 1993; Stojkovic & Cumming, 1995; Vágvölgyi et al., 2016).

Prior to the mid- to late- twentieth century, literacy was fundamentally tied to the concept of *human empowerment* (Lewis, 1997). Reading and writing were high in quality when such activities served to empower people in their own partaking within them, for example, when a person finds enlightenment in a given piece of literature or experiences a sense of fulfilment in reviewing their written creations (Smith, 2000). In other words, the operational definition of literacy consisted of the person's implicit experience of self-empowerment, either *first-hand* (e.g., when writing or reviewing one's own works) or *second-hand* (e.g., when reading the works of others). Experiencing literacy under these conditions is the same as demonstrating and cultivating literacy within oneself. The sense of empowerment that arises out of literacy is none other than the feeling of having fully expressed oneself, and that this was done accurately as well as effectively.

Workplace literacy and self-empowerment

Towards the end of the twentieth century, however, economic demand for near-complete adult literacy drove several organizations to get involved in its pursuit. In 1992, the Organization for Economic Cooperation and Development (OECD) released an 86-page report, in which they aimed to address the problem of "adult illiteracy and economic performance." Their paper focused exclusively on the notion of *workplace literacy,* i.e., attempts to develop literacy skills within the context of one's job. In one definition, workplace literacy "encompasses functional literacy skills but also includes other skills that are necessary to function successfully in an

increasingly sophisticated business environment" such as "teamwork, communication, computation, problem solving, critical and creative thinking" (Crowley et al., 1997, p. 162). At first blush, such endeavours appeared to be the fastest route towards improving national LBS as, for a while at least, workplace literacy was viewed as the "key to economic competitiveness in the global economy" (Lewis, 1997, p. 391). After all, the juggernaut that is the global commercial apparatus seems like an extremely powerful tool with which to drive workforce development writ large.

After the release of this paper, however, numerous researchers and other writers responded to the practical implications of workplace literacy programs (Bernardon, 1989; Burnaby & Hart, 2001; Crowley et al., 1993; O'Doherty, 2009; Stojkovic & Cumming, 1995; Yaffe, 1992). It seemed that efforts towards the proponing of workplace literacy served to obscure the ties between literacy and human empowerment that had previously moved in lockstep with one another. Prior to this point in history, literacy fell squarely within the purview of *human capital theory*, in which the existence of various productive capabilities and economic value are attributed to the average citizen (Rosen, 1989). Such attributions take the form of societal expectations and predictions drawn by those to serve the organizations and institutions for whom they work. In other words, literacy had always been crucial to one's ability to participate within the collective workings of the world—not just within one specific job for one specific company. As soon as an employer steps in front of the learner and determines which aspects of literacy the learner must develop, the employer inadvertently damages this relationship. This is because employees will cease pursuing literacy for their own personal growth and simply do whatever their company tells them to do.

As the evidence piled up, many companies' workplace literacy programs fell out of favour. While hiring organizations still wanted a literate workforce, they also recognized that their own direct development efforts sabotaged the process. And so, corporations stepped out of the business of increasing literacy, relinquishing such efforts to organized institutions of learning (Baydar et al., 1993; Bruce et al., 2012; Cerni et al., 2021). These early workplace literacy efforts remain important, however, because for the first time they shone a spotlight on adjacent skills. As mentioned above, concepts such as teamwork, communication and critical thinking were a novel addition to the study of literacy. The addition of these skills to the discussion provided economic context for the need to read and write (because a job is necessary to sustain one's livelihood), but they also provided important clues to the consequences for employees whose literacy skills are yet undeveloped. This is because the modern workplace is a social environment that depends on its members' ability to communicate so that the collective may thrive (Venkataramani et al, 2013).

Social consequences of low LBS

In a 1997 study, Egloff identified two related characteristics of adult learners that perpetuate their literacy deficits: 1) fear of stigmatization and 2) negative self-concept. In the first, fear that other people will discover an adult learner's reading or writing challenges prompt the learner to hide their disability and deploy diversionary tactics that block its discovery. In the second, the learner believes that they lack the ability to learn to read or write at the same level as their peers. Both characteristics serve to prevent the learner from improving their literacy skills. Learners either expend effort on hiding their disability that could otherwise be used to develop, or they embrace a sense of futility that they will never perform at the level of their colleagues. Within a work context, these characteristics prevent career advancement (learners will turn down promotions for fear of discovery), damage working relationships (learners will become angry

when asked to perform a task that could expose their disability), force dependence on others (learners will eventually require others to read for them) and limit opportunities for social engagement (since even reading a restaurant menu in front of others is stressful; Egloff, 1997). These consequences suggest that the social nature of the workplace itself helps to perpetuate literacy deficits. That is, if not for the fear of what others think, and the unfair comparisons to others' abilities, the effort to hide their challenges would be unnecessary and normal learning should be able to resume.

This is not to suggest that low LBS is simply a byproduct of some arbitrary form of social anxiety. Quite the contrary, researchers have identified numerous contributing factors to low LBS including access to education (Biddle & Berliner, 2002), socioeconomic status (Hanushek et al, 2009), English as a second language (Zong & Batalova, 2015), learning disabilities (Cortiella & Horowitz, 2014) and crime (Tripodi et al., 2010), just to name a few. *Contributing* factors of low literacy and *maintenance* factors of low literacy, however, are two different things. Put a different way, there is little to be done about an adult learner's past; whatever has brought them to this point cannot be changed. An adult learner's present, on the other hand, is much more subject to influence, if only one could understand the motivational barriers preventing them from moving ahead.

LBS and Self-Determination Theory

One of the most well-known motivational frameworks in modern literature is Self-Determination Theory (SDT; Deci & Ryan, 1985). This describes two basic motivational types: *intrinsic*, in which performance of an activity is rewarding enough on its own, or *extrinsic*, in which performance of an activity is desirable either because of something that results from it (e.g., grades, status, money) or to avoid negative consequences (e.g., punishment). Generally speaking, intrinsic motivators tend to result in longer lasting behaviours and see greater results or

benefits than extrinsic ones. For example, someone who genuinely loves to play the piano will be more likely to practice and improve their musicality than someone who is paid to learn the piano or told to practice "or else". There is an in-between state to SDT, however, that is worth mentioning. Some motivators are *internalized-extrinsic*. This means that although these motivators are extrinsic in their own right, an individual has incorporated them into their personal values system and thus finds them personally meaningful. For example, an individual might study hard for an examination because its successful completion will lead directly to a fulfilling career.

In a novel study of 188 adult learners in Portugal, Rothes et al (2017) set to determine whether SDT could predict successful literacy outcomes. In particular, researchers were interested in the motivational profiles of their participants. Some used *autonomous regulation* strategies. These are strategies driven either by intrinsic or internalized-extrinsic motivators. Other participants used *controlled regulation* strategies. These strategies are driven purely by the anticipation of extrinsic rewards. The team found that learners with strong autonomous regulation strategies at the start of the study tended to score highly on measures of self-efficacy, behavioural engagement and use of deep learning strategies. Invariably, these participants' literacy improved over the course of the study. Learners who used either controlled regulation strategies or low levels of both controlled and autonomous regulation had worse results across the board. In other words, learners who went into the study either identifying literacy as personally important or believing that improving their literacy would deliver a personally meaningful outcome far outperformed those who chose any other strategy.

At this point, three broad factors have been identified that can influence the trajectory of an adult learner's LBS: 1) Feelings of self-empowerment as identified in the literature on

workplace literacy (i.e., emotional competencies), 2) Social fears such as self-stigmatization and negative self-concept as identified by Egloff (i.e., social competencies), and 3) Motivational strategies such as autonomous regulation as identified by Rothes (i.e., motivational competencies). These are noteworthy because not a single one appears in any meta-analytic study of literacy interventions. In the few cases where researchers have tackled such systematic reviews, they have limited their investigations to the development of cognitive competencies (e.g., phonological recoding, word recognition, text comprehension, etc.; Torgerson et al, 2003; Kindl & Lenhard, 2023). This is not to say that cognitive skills are not relevant to an adult learner's literacy development, in fact literacy cannot develop without them (Kindl & Lenhard, 2023). However, there is ample evidence to suggest that non-cognitive interventions specifically designed to address the emotional, social and motivational challenges that accompany low literacy should be effective when used in conjunction with existing cognitive-based literacy instruction. In other words, literacy interventions may require *soft skill* remediation in order to lower barriers that prevent an adult learner from learning to read and write.

Potential soft skill remediations

The soft skill space, however, is fraught with numerous competing definitions. A relatively new phenomenon, the term "soft skills" did not appear in the scientific literature until 1989, with sparse and infrequent mentions for the next 15 years. Only in 2007 did the corpus see more than 20 mentions in a single year, rapidly increasing until 2021 which receives 470 mentions (Web of Science Core Collection, 2024). Definitions for the term, however, are numerous, and often take the form of laundry lists of simultaneously related yet disparate themes. Heckman and Kautz (2012), for example, unhelpfully define soft skills as "personality traits, goals, motivations and preferences that are valued in the labor market, in school and in many other domains". Yorke (2006), however, instead describes them as a "mix of dispositions,

understandings, attributes and practices". As one systematically works their way through the

literature looking to make sense of these incredibly vague definitions, one can even find Cinque

and Ciappei (2014) label soft skills as "wicked competences" (*competenze malvagie*), since their

amorphous definition changes across both context and lifespan.

This lack of definitional consistency in the academic literature is problematic because it

provides little guidance towards developing a remediation framework. Soft skill lists range from

the short with only nine entries (World Health Organization, 1997) all the way up to the absurdly

long with ninety-two entries (Joie-La Marle, 2022). Fortunately, however, the Social Research

and Demonstration Corporation (SRDC, 2024) has worked with organizations to create a

taxonomy of skills most sought after by Canadian employers. Forming the backbone of Canada's

Skills for Success (SfS) program, this taxonomy identifies nine different skills "needed to

participate and thrive in learning, work and life (SRDC, 2024; see Figure 1). Four of these skills

are directly related to LBS (e.g., writing, numeracy, digital and reading). The remaining five,

however (communication, creativity and innovation, problem solving, collaboration and

adaptability) fall in various degrees into that non-cognitive, literacy-adjacent space identified

above. More importantly, each of these five skills also appear on most soft skill lists (SEL,

World Bank, 2018; ModEs, 2015; UNICEF, 2012; WHO, 1997).

Figure 1. Skills for Success.

Figure 1. The nine skills embedded within Canada's Skills for Success (SfS) program (SRDC, 2024).

Since four of these skills are directly related to LBS, and the literature contains a wealth of intervention studies that specifically target these skills (Kindl & Lenhard, 2023), one can assume that teaching the mechanics of writing, numeracy, digital and reading is well-understood and covered by existing LBS programs. The remainder of this paper, therefore, can focus on the five literacy-adjacent skills in the SfS and make suggestions on how remediation of each could facilitate literacy improvement. This is not clear in the literature and would represent a novel approach to developing LBS skills.

Communication

The first of these is the easiest to address because LBS and communication go hand-in-hand. According to the SfS website, communication is the "ability to receive, understand, consider and share information and ideas through speaking, listening and interacting with others"

(SRDC, 2024). In a workplace context, employees need to read and write e-mails, memoranda, texts, instant messages and any number of media that use written encoding. Naturally, the learner will need to be able to work effectively with these messaging formats and have the requisite skills to interpret them. One could argue, however, that the mechanics of reading and writing these communiqués, are the easiest skills to perform when compared to the other tasks necessary to deliver and interpret messages.

Communicating to others, for example, can be an especially stressful experience for someone with low literacy skills. In addition to their low LBS, adult learners must also contend with: a) the need to encode and decode messages, b) delivery and interpretation of these messages amid environmental distractions and c) delivery and interpretation of the subtext underlying these messages (Schramm, 1997). Of these, only the first is directly related to the acquisition of LBS skills (i.e., reading and writing); the other two are literacy-adjacent but nonetheless crucial to effective communication. In situations where feedback must be either given or received, communication can be even more fraught with challenges as an adult learner must choose from a library of techniques with which to deliver such feedback. This assumes, of course, that the learner possesses such a framework which, given the existing challenge of low LBS, should not be taken for granted. Alternatively, the learner must subject themselves to others' opinions that may be well-intended but not always well-delivered. Thus, the learner will also need a library of strategies to weather those conversations (Jug et al, 2019).

For example, when we feel that someone else is criticizing or threatening us, our feelings about the event often burst through as attacks. This can be especially problematic for an adult learner with low LBS because they may already feel vulnerable, and fear of discovery can make them quick to go on the offensive (Egloff, 1997). For the learner, this draws attention to their

own perceived shortcomings, but also adds in guilt over the outburst, further damaging their self-esteem. Rosenberg (1972), having worked with vulnerable populations, recognized that the identification and expression of legitimate emotions (e.g., "I feel afraid/angry/lonely") helped to improve interpersonal bonds by creating feelings of empathy in the listener. However, he also recognized that under duress people commonly use *interpretations* as a proxy for their emotions in order to place blame (e.g., "I feel abandoned/cheated/insulted"). Communicating in this way has the opposite effect and tends to sabotage relationships. To mitigate this, the learner will need to find ways to speak accurately about their literacy levels while neither putting themselves down nor resorting to personal attacks.

Listening skills are also vital to LBS development and necessary for an adult learner to follow instructions, make observations and demonstrate comprehension through meaningful dialogue. Even well-read adults often listen with the intent to respond rather than with the intent to understand. Reflective listening (Rogers, 1951) involves two sets of skills: 1) Attending to the speaker, which can include maintaining eye contact, using inclusive hand gestures and body language, outwardly showing an active interest in the speaker's narrative, and 2) Reflecting the speakers points, either by mirroring (repeating back the speaker's actual words), paraphrasing (restating the speaker's words a different way) or summarizing (capturing the entire story from the perspective of the listener). Listening in this manner is challenging but has been demonstrated to enable important literacy skills including text decoding, checking comprehension, using keywords to recreate meaning and noticing specific aspects of input (Pan, 2015).

Collaboration

The second soft SfS skill, collaboration, is closely related to communication. In this, according to the SfS website, the adult learner needs to "contribute and support others to achieve

a common goal" (SRDC, 2024). Collaboration builds on top of communication because two or more people cannot work together without some means to share ideas, as well as to measure and report work progress. For this reason, all of the non-cognitive aspects of communication also apply to the collaboration skill. However, collaborating with others introduces new challenges for the adult learner that also require remediation.

As identified above, learners with low LBS are prone to hiding their perceived disability (Egloff, 1997). This means, to avoid uncomfortable questions, they will be less likely to ask for help when they need it and will try to solve problems on their own, away from the view of others. This behaviour is the antithesis of effective collaboration. To overcome this tendency an adult learner will need to learn to become comfortable reaching out and asking their colleagues for support. Azjen (1991) recognized that planning is the best predictor to determine whether someone will take a particular action. He also identified three predictors of plan development: attitude (believing the plan is a good one), subjective norms (believing that others would approve of the plan) and perceived behavioural control (believing that the plan is within one's capability). Within the context of asking for help, this would involve encouraging a learner to feel safe making this request, giving them skills to identify the right person for a particular job, and structuring the request such that it feels trivial to perform.

Asking for help is especially important in modern work environments where workers can expect to participate in many multiple projects across multiple teams at the same time (Zika-Viktorsson et al, 2006). Under these conditions, adult learners dealing with low LBS challenges have a double burden. Not only must they overcome their literacy hurdles under these conditions, but they can expect more ambiguity, greater stress and expanded responsibilities while they do so (Schmidt et al, 2014). Recognizing the direction that many workplaces were headed, Karasek

(1990) identified that occupational well-being is a product of three factors: control over one's

job, support from one's boss and support from one's colleagues. As one of these factors

diminishes, the other two must make up for the loss. Given the complex conditions that today's

worker must endure, the control a worker has over their job is lower than ever before. This

means that a worker's occupational well-being has an outsized dependency on support from the

other people in their workplace. Under these circumstances, adult learners would do well to learn

techniques to proactively support the people around them, in order to elicit an in-kind response.

Problem solving

Closely related to collaboration, problem solving is the "ability to identify, analyze,

propose solutions and make decisions" (SRDC, 2024). This skill is generally considered to be a

cognitive ability (Wang & Chiew, 2010), although it has several non-cognitive attributes that an

adult learner will need to master. Mood, for example, plays an important role in how we

approach our environment. When we are in a good mood, we will tend to seek, notice and recall

people and things that are congruent with this mood, and disregard what is not (i.e., we will

prioritize awareness of smiling people and things that make us feel good). The converse is true if

we are feeling low (i.e., we will prioritize awareness of sad or angry people and things that bring

us down). This is called *affect congruence* (Forgas, 1995). Because of this phenomenon, we also

tend to give mood a significant role in our approach to problems and decisions. That is, being in

a good mood makes us more likely to be accepting of new ideas, think creatively, take risks and

support change. Conversely, being in a low mood makes us more likely to be skeptical of new

ideas, think critically, avoid risks and support the status quo. This is called *affect infusion*

(Forgas, 1995). The nature of affect infusion means that mismatches are possible when

workplace incidents occur. That is, being in a good mood is unhelpful for problems that require

caution and being in a bad mood is unhelpful for problems that require creativity. This suggests that effective problem solving requires the ability to change moods at will.

As identified earlier in this paper, the development of literacy is partially predicated on self-determination. Deci and Ryan (1985) identified three components to this construct: 1) competence (the ability, judgment, or strength to successfully complete a task), 2) autonomy (the feeling of being in charge of one's own goals and behaviour) and 3) relatedness (the feeling of support and belonging within one's community). Each of these factors is equally important in the development of self-determination. If, however, an adult learner believes they lack the first factor, competence, they will naturally take a pessimistic view towards the other two. Given that both of the remaining factors are emotional in nature (i.e., the *feelings* of autonomy and relatedness), affect infusion suggests the learner will anticipate failure. If solving a problem requires the learner to rely on their low LBS skills, they will take a position that relieves them from having to solve that problem. This is ultimately disastrous as they will become much more prone to reject possible solutions, deny their colleagues' ideas and support taking no action. According to Zahariadis et al. (2016), "fear and consequent insecurity act as filters of reality, leading people to look for more evidence of threats, which leads to more insecurity" (Zahariadis et al., 2016, p. 152).

This ironic outcome has further implications for problem-solving as the consequences of each decision will radiate outwards like ripples on a pond in the short, medium and long term. The decision to maintain the status quo may seem to the adult learner like a good idea in the moment because it will alleviate the anxiety associated with their low LBS (Mowrer, 1951). According to Rule and Stefanich (2012), however, "consideration of the long-term effects may reveal negative consequences that overshadow short-term benefits" (Rule & Stefanich, 2012, p.

50). In this, the learner will need decision-making frameworks that help them account for their anxiety such that they can visualize the consequences and sequelae that result from each choice they make.

Adaptability

In a similar vein, adaptability involves the "ability to achieve or adjust goals and behaviours when expected or unexpected change occurs, by planning, staying focused, persisting and overcoming setbacks" (SRDC, 2024). In this sense, this skill may require problem-solving abilities if, in the management of change, obstacles must be removed. Being able to tolerate and adapt to change, however, is a unique skill in its own right and is associated with tolerance for ambiguity, preparedness for change, creativity and the ability to change one's mind about goals, people and work in progress (Vynohradova et al., 2021).

Adaptability is a feature of human capital, or the intrinsic value of an individual's sum knowledge and capability (O'Connell et al., 2008). Human capital increases with education and experience and as it does, provides the individual with a greater range of situations in which they can be successful (Forret & Sullivan, 2003). Essentially, the expansion of a learner's human capital represents the expansion of the "toolbox" they use to navigate the world. In this sense, anything that expands human capital increases its value. While this certainly applies to formal education and literacy, it also applies to personal experiences acquired outside of academia. Unfortunately, adult learners may put extra weight on their low LBS and discount other experiences that can help them adapt to changes or persevere through adversity (Cousins et al., 2019). This can impair their performance and leave them vulnerable to the ire of others.

These self-interpretations are based on deep seated beliefs that the adult learner holds about both their own perceived inadequacy, and the perceived importance that their LBS has to others. Directly changing these views is difficult because such beliefs often lie out of reach of

conscious thought (Beck, 1979). When they emerge, however, they often take the form of

automatic thoughts, or specific patterns of thinking that suggest an underlying problem. An

example of this is "mind reading", in which one imagines they can determine another person's

thoughts (e.g., "Bob's looking at me funny. He knows I'm having trouble reading this report.";

mind reading is not possible but ascribing ill-intentions to Bob's ambiguous gaze is potentially

harmful). The consequence, of course, is that thoughts such as these lead directly to negative

feelings either about the self or other people, and those feelings lead to externalized behaviours

that are potentially maladaptive. If the learner can change these interpretations, however, then

different feelings will result, as this will result in more adaptive behaviour (Leahy et al., 2005).

Fortunately, there are several techniques that can help a learner to catch automatic

thoughts when they occur and adjust them to be more in line with objective reality. *Cognitive re-*

appraisal (Lazarus & Folkman, 1984) represents a collection of approaches that allow one to re-

interpret their thoughts using simple language conventions. The "Robinson Crusoe" technique,

for example, involves putting "but" at the end of every negative thought (e.g., "I'm having a hard

time reading this document…*but*…I have supportive people around me who will help"). The

"perceptual positions" technique involves looking at your challenges from multiple perspectives

(e.g., from the points of view of a compassionate observer, your company or even a person flying

overhead). Both of these approaches address maladaptive *thoughts.* To address unhelpful

emotions that may have resulted from these interpretations, *cognitive defusion* (Beck, 1979) may

be necessary. This involves a collection of visualizations that separate one from their difficult

feelings. For example, the "leaves on a stream" technique carries the following instructions:

"Imagine standing near a stream in the autumn. Place the thoughts that hurt you

on the leaves that float by. Watch the leaves disappear in the distance, taking your

thoughts with them" (Beck, 1979).

Note that the point of both cognitive re-appraisal and cognitive defusion is to address the

precursors to unwanted behaviours such that the learner can make more adaptive choices instead.

Creativity and Innovation

The final soft skill from the SfS framework is creativity and innovation, defined as the

"ability to imagine, develop, express, encourage and apply ideas in ways that are novel,

unexpected or challenge existing methods and norms" (SRDC, 2024). In a sense, creativity and

innovation leverages aspects of all the foregoing non-cognitive SfS skills. Csikszentmihalyi

(2014) notes that creativity depends on a framework of both organizational assets and peers who

support a learner's innovative ideas. This means that a good idea is not enough—the company

has to know how to use the raw materials that will form its finished state, and the peers who will

ultimately evaluate the idea have to recognize its value. If neither of these conditions are met,

then the idea will wither from lack of support. Right away, then, both communication and

collaboration become germane to the innovation process. Creative ideas, however, also emerge

as a result of environmental challenges and changing conditions, suggesting that both problem

solving and adaptability play an important role in innovation's development (Gasper, 2003).

Creativity, however, also has its own features that set it apart from these other skills. In

particular, idea formation depends on asking questions that lead us to look at the world in new

ways. According to VanGundy (2007), "the ultimate goals of asking and answering these

questions are to uncover potential areas to explore for applying creative thinking, increasing

innovation and creating value (VanGundy, 2007, p. 32). This is consistent with the aims of LBS

development since asking questions helps to cement reading comprehension. Techniques such as

elaborative interrogation, in which learners ask *why* or *how* events in a passage of text occur have been shown to facilitate learning and improve literacy (McDaniel & Donnelly, 1996). This same technique has also been shown to drive greater reflection about a topic when considering the new possibilities that the technique generates (Woloshyn et al., 1994).

This reflection is an essential ingredient in curiosity, a driving mindset that underlies the innovative process (Walsh et al., 2022). According to Rothstein and Santana (2011), a four-year old child will ask as many as 300 questions a day. By the time they turn twelve, this number will drop almost to zero (MacKinnon & Archer-Kuhn, 2023). Qualitative studies of this phenomenon suggest several reasons for this shift, including an increase in self-awareness, fear of being judged and fear of looking stupid. Soiferman (2019) suggests that each of these reasons ultimately lead back to an education system that prioritizes getting the "right" answer over seeking knowledge for its own sake. Creativity is not, however, a "right or wrong" process as its pursuit is by definition novel and untested. This is a challenging concept for many students; those with low LBS, however, may find this particularly daunting. For this reason, adult learners can benefit from interrogative and idea generation techniques that can keep their curiosity high. According to Butler (1959), "natural curiosity overcomes acquired social reluctance" (Butler, 1959, p. 344).

Conclusion and final thoughts

The foregoing notes on soft skill remediation in the context of LBS development may appear lengthy but they are just the "tip of the iceberg". The Skills for Success model provides a useful framework from which to hang individual pieces of curriculum in order to identify specific goals and success criteria for adult learners. Further, this model helps to explicate some of the reasons that traditional cognitive skills such as phonological recoding are insufficient to develop literacy to optimal levels. There is an open question, however, as to whether or not all

soft skills require remediation to the same level in all adult learners in the same way. A body of literature is emerging to suggest that, just as with personality, soft skills vary with the individual (Andreoni et al, 2020; Caggiano et al., 2020; Jardim et al, 2022). Extraverts, for example, already know how to start a conversation but could benefit from body language training; the opposite is true for introverts (Dennis et al, 2022). If this is accurate, then any soft skills programming an interventionist may design for adult learners needs to consider individual differences prior to offering the curriculum.

Fortunately, recent advances in non-cognitive assessments may offer a solution. The Multidimensional Inventory for Personal Intelligence (MIPI; Van Rens et al, 2024), for example, specifically captures emotional, social and motivational dimensions of the kind noted above. This is an unparalleled expansion of traditional measures of non-cognitive competency that could allow a trainer to assess a classroom of adult learners before delivering their training, and cherry pick only those learning modules that would maximally benefit all participants. In theory, this could put a substantial amount of power in the hands of organizations with limited budgets who seek to improve LBS in their clientele.

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