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Education 2030 Workshop "Towards Defining Character/Attitudes/Values/Behaviours"

Well-being as Part of 21st Century Competencies

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This paper was prepared by Ms. Laura H. Lippman.

The paper synthesises the research findings on the importance of well-being as part of 21st century competencies which today's students will need to live a successful life in 2030 when they become adults.

This focus was determined as a result of the suggestion made by the Education 2030 school networks group as the missing domain [EDU/EDPC/RD(2015)28].

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WHY INCLUDE WELL-BEING AMONG 21ST CENTURY COMPETENCIES FOR 2030? PREPARED FOR THE EDUCATION 2030 PROJECT OF THE OECD

1. The development of students into well-functioning adults[1] is often cited as the goal of education and human development. This is often referred to as *well-becoming* among researchers of child well-being (Lippman, 2007) and it is an adult-centric term. The education and development of students for their own sake *while* they are students is considered equally important among a growing number of researchers. This was brought home while presenting positive indicators of adolescent well-being[2] in South Africa, when a participant noted that the indicator measuring hope in students was most important, since without hope--a broad sense that the future will turn out well--there was no point in collecting data on high school achievement or completion, since the students, with all of their challenges, would simply not make it to their high school graduation.

2. Development and learning is best achieved in a state of well-being. Schools are places where students spend the majority of their time; and therefore, schools have the responsibility to facilitate well-being among their students while they are students. Secondary schools are more successful and effective when they create environments that consider the broader developmental needs of adolescents, including their physical, social, emotional, psychological needs, as well as their need to connect to something beyond themselves (Lippman et al., 2008). When students are in an environment that respects their needs, they are more likely to be engaged in school, and are able to learn to their best ability.

3. Learning theory suggests the need to incorporate a wide range of skills and competencies[3] in the learning process, not just cognitive skills, and development is dependent upon such interactions (Schoon, 2015). Therefore, education requires the development of the whole child or adolescent in order to be fully successful. Well-being can be promoted by schools for all aspects of an individual student; however, certain aspects of well-being can be effectively promoted through educational curricula, while other aspects are more effectively promoted by other aspects of schooling, such as mentoring, classroom and group activities, information campaigns, sports and the arts.

4. Physical and psychological well-being relate to other aspects of well-being in multiple directions. First, physical and psychological well-being fosters higher levels of educational achievement and attainment and workplace success. Second, higher levels of cognitive competencies are related to higher

[1] A well-functioning adult can be defined as one who is healthy, successful, and responsible at work, family and social relationships, and in society.

[2] Positive indicators measure promotive and protective factors and their relationships to positive adolescent outcomes, for example, healthy eating habits, school engagement, and social skills.

[3] The DeSeCo Project of the OECD defined a competency as more than just knowledge and skills, but "the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context. For example, the ability to communicate effectively is a competency that may draw on an individual's knowledge of language, practical IT skills and attitudes towards those with whom he or she is communicating" (Rychen and Salganik, 2003). A skill is performing a specific task applied to a specific context, such as at school or work, and it is generally considered to be malleable and teachable.

levels of physical and psychological well-being. Third, physical and psychological well-being interact with the development of social and emotional and cognitive competencies. Thus, physical and psychological well-being needs to be an inextricable part of a framework for 21st century competencies in secondary school. These relationships are addressed in this paper, with examples drawn from a much broader literature.

Physical and psychological well-being predicts success at school and work

5. Practitioners have noted that adolescents prefer to learn skills and competencies to develop their strengths, rather than to be told what to avoid. Thus this section provides examples of selected positive health behaviors rather than negative behaviors, and their relationships to educational and workforce success.

6. Enjoying good health and good health habits can lead to positive outcomes for young people, such as reducing their risks of obesity and hypertension, having a lower body-mass index (BMI), and having a positive body image, and even reducing their chances of becoming disconnected; that is, disengaged from school or work. Healthy habits include practicing good nutrition; making good choices about sleep and exercise; and being disciplined enough to pursue a healthy lifestyle (Benson et al., 2004; Harris et al., 2005; Lickona and Davidson, 2005; Lippman et al., 2008).

7. School based physical activity is positively associated with academic performance and cognitive functioning. Increasing time children spend engaging in school physical activity does not detract from student achievement, and it can contribute to children's academic success. (Rasberry et al. 2011). In addition, exercise facilitates the development of executive function, which underlies cognitive and emotional tasks such as self-regulation, organization, and concentration, which are critical for academic success (Tomporowski et al., 2008).

8. Habits learned in school translate to habits maintained in adulthood. Children and adolescents who are active at a young age will remain so throughout life, extending the health benefits of exercise, higher self-esteem and self-confidence, which boosts achievement and success in any endeavor (Eccles & Gootman, 2002).

9. Trier (2003) found that employers considered the ability to manage one's health as an important personal characteristic that they wanted their workers to have. Certainly, employee absences caused by frequent illness are undesirable to employers.

10. Youth development research shows that youth who avoid substance abuse, smoking, drinking, unsafe sexual practices, and violence have more positive and healthy outcomes—such as success in education and employment—than do youth who engage in such risk behaviors. (Benson et al., 2004; ChildTrendsDatabank; Gambone et al., 2002; Lippman et al., 2008; Roth et al., 1999).

11. Physical safety practices, such as bicycle helmet use, avoids injury, loss of time in school and potential lifelong disability. Additionally, schools have a responsibility to provide safe environments as well, not just physical environments, but safe peer group activities and an environment of emotional safety (Eccles et al., 2008).

12. Kinesthetic ability, the ability to coordinate movement, is important for many fields of study and occupations, and can be considered one form of intelligence. For adolescents who excel in kinesthetic ability, it provides an alternative to academic studies for developing proficiency and positive self-concept (Gardner, 1983). Dexterity is a widely used skill in employment. PIAAC found that over 60 percent of workers used the skill of dexterity every day at work (OECD, 2013). Certainly in early childhood, fine motor skills at age 5 is a strong predictor of later achievement (Grissmer et al. 2010).

13. Positive mental health, as opposed to depression, anxiety, etc. confers an advantage in accomplishing all the tasks of youth development and a successful transition to adulthood, including meeting educational and workforce expectations (Lippman et al, 2008).

Cognitive/learning competencies predict better physical, social and mental health outcomes

14. Educational engagement—including cognitive, emotional and behavioral engagement—has a known positive relationship with academic achievement and attainment, but is also related to physical, social and mental health (Furlong et al, 2003). Students who are educationally engaged are significantly less likely to fight, smoke or be depressed, and are more likely to have higher grades in multivariate analyses (Lippman et al, 2014a). Educational engagement protects against early sexual debut and other risk behaviors (Li et al., 2008).

15. Academic attainment is strongly related to early adult outcomes, not only being economically self-sufficient, but also and having healthy family and social relationships. Adults with higher levels of educational attainment also report being in better health and having higher levels of socio-emotional well-being. (Galinsky et al, 2000; Ross and Wu 1995).

16. Above and beyond attainment, having a broad base of knowledge is important for overall healthy development (Eccles et al., 2008; Eccles et al, 2003; Roth et al., 1999). Specifically, cross-cultural knowledge/competency is related to social skills –getting along with others from different backgrounds and positive youth development (Eccles et al., 2008; Larson and Wilson, 2004, Rychen and Salganik, 2003). Knowledge of life skills, such as budgeting, financial literacy and management, can make a difference for all youth, and particularly those who are aging out of foster care or have disabilities (Lippman et al, 2008). Civic knowledge is related to social and civic engagement, the assertion and protection of civil rights, lawfulness, responsible behavior, and self-efficacy.

17. Using tools interactively to obtain knowledge was found to be among the top three competencies in importance for a successful life from the previous OECD effort to define competencies (Rychen and Salganik, 2003). Indeed, being a lifelong learning is a marker of a developmentally flourishing individual (Lemke et al., 2001; Lickona and Davidson, 2005; Scales et al., 2006). Related to lifelong learning is the capacity for curiosity, which has been found to be positively related to intimacy, personal relationships, and personal flourishing (Kashdan, 2009).

18. Problem-solving, critical thinking and reasoning and evaluative skills are related to overall healthy youth development. Problem solving, critical thinking, and decision making are related to three outcomes of workforce success: employment, performance on the job, and entrepreneurial success, but also to positive personal and social decision-making so that risks are accurately evaluated and well-being is optimized (Lippman et al., 2008; Lippman et al., 2015).

19. On the other hand, a lack of cognitive stimulation can have a negative effect upon well-being. Unemployment and unrewarding job environments, such as those found in entry-level jobs with few low-level cognitive demands, minimal skills, and little autonomy, have been linked with depression among young adults (Wiesner et al., 2005; Zimmerman et al, 2004).

How Well-being (physical and psychological) relates to other competencies for 2030?

20. How does well-being fit into the overall framework? The concept mapping with 5 domains presented to experts on November 9th contains these categories: physical, social, emotional, cognitive and meta-competencies. Physical and mental health are already embedded in the concept mapping, with an entire category called physical competencies, which is the foundation of well-being, and is inextricably linked to the other domains of well-being. Researchers have demonstrated that the mind and body are

interconnected with multiple pathways; what affects one affects the other, so that if the curriculum framework seeks to develop competencies of the whole student, then the physical category must be included in the concept mapping for its own sake, and as an avenue through which improvements in other competencies can be made.

21. In the realm of physical development, genetic-environmental interaction explains much of what happens as children mature. A child's height, for example, depends on both genes and diet: good nutrition helps children grow to their full genetic potential (Gottesman and Hanson 2005). The environment also contributes to normal brain development during childhood and adolescence via sensory input that stimulates formation of the specialized neuronal circuits that enable mature thinking (Johnson 2000; Webb, Monk, and Nelson, 2001). According to Piaget, thinking develops in stages to more advanced levels as children grow into adolescence (Inhelder and Piaget, 1958; Piaget, 1970). At each stage, novel experiences challenge children to revise their ways of thinking in order to be able to explain the new phenomena. Vygotsky placed even stronger emphasis on the role of social and cultural interaction in shaping children's cognition (Tudge and Scrimsher 2003). Thus, the physical, emotional, social, and cognitive domains are interconnected as adolescents develop.

22. Aspects of psychological health can be already be found among the competencies nominated for the emotional and social categories. In the emotional category, it is currently included in dispositions- and the study of dispositions such as the Big Five personality factors of openness to experience, conscientiousness, extraversion, agreeableness, and emotional stability, is a huge and rigorous body of psychological research relating these factors to education and workforce outcomes. The emotional category should include emotional self-regulation and positive self-concept, which have been found in extensive reviews of research for education and the workforce to be key psychological competencies for success in school, work and life (CASEL, 2015; Lippman et al. 2015).

23. Social competence is a cluster of skills necessary to get along with others (Lippman et al., 2015). Psychological competencies such as self-control and positive self-concept again come into play in social relationships, as well as social problem solving, while behavior problems represent an example of a negative outcome that involves the lack of self-control. Physical and psychological phenomena such as chronic illness and depression can limit social exchanges and the development of social and emotional competence if they are prolonged and result in withdrawal. Likewise, visual, hearing, and physical impairments affects the ability to interact with others, and can affect self-concept. These can cause a student to be a target of bullying in schools, causing disengagement from school, social exclusion as well as emotional harm. On the other hand, a student can develop a higher capacity for empathy, sometimes categorized within social competence, which can be fostered through interacting with others who are experiencing illness or disability.

24. Sleep is a good example of how an indicator of physical well-being can interact with social, emotional and cognitive domains, particularly during adolescence. Many adolescents do not receive enough sleep, and sleep deprivation has a negative effect on the control of behavior, emotion, and attention, which are critical in the development of social, emotional and cognitive/academic competencies. There is also evidence for bidirectional effects between sleep and behavioral/emotional regulation (Dahl and Lewin, 2002). The alteration of normal sleep patterns and sleep problems are found among children and adolescents with anxiety, depression and attention disorders (Gregory and Sadeh, 2012).

25. Physical and psychological health are embedded in the concept mapping with 5 domains in the categories of cognitive well-being and meta-competencies. Health and mental health affect one's ability to think clearly, and alertness (cognitive functioning); engagement, motivation, self-efficacy, and academic self-concept as well a general self-concept (emotional and meta-competencies in the current concept map) among other important mediators of academic achievement and attainment. In the current concept map,

such competencies currently listed under meta-competencies such as self-awareness, self-control, conscientiousness, self-management, stress-management, etc. are actually psychological concepts, defined and measured by psychologists.

Conclusion

26. In conclusion, physical and psychological health are inextricably related to and in some cases, are already included within the other domains of social, emotional and cognitive competencies, as well as among the meta-competencies in the suggested 5 competency domains for Education 2030. They both predict to cognitive/academic competencies and are predicted by them, and they are closely related to social and emotional competencies. To exclude them from the new concept map would be to artificially separate social, emotional, and cognitive competencies from underlying biological and psychological processes and behaviors. Furthermore, research suggests that there are ways to improve social, emotional, and cognitive competencies through physical and psychological strategies, and therefore, it is important to include them in a framework that will drive curriculum development, and potentially, other school-based strategies and interventions that could be implemented to improve student competencies by 2030.

27. Selecting which aspects of physical and psychological health to prioritize is the next step. Considerations might include which aspects enjoy the strongest evidence of their relationship to outcomes, which enjoy the most stakeholder support, which are developmentally appropriate as a focus for secondary school students, and which are malleable and teachable as part of secondary school curricula.

28. The research cited above provides examples of competencies that would fit these criteria. Practicing healthy habits, such as good nutrition, exercise, and regular sleep is a foundational competency that could be introduced along with popular individual fitness tracking devices (such as Fitbit), as part of a health class. In adolescence, managing risk is a critical competency that ensures that substance use and risky sex do not derail progress and lead to disengagement from school. Positive psychological health, including the competency of coping when confronted with challenges, as well as self-efficacy and a positive self-concept, can make all the difference as to whether a student succeeds or fails in school as well as work. Research demonstrates that these are not fixed psychological traits, but that they are malleable, (Lippman el al., 2015) and thus good candidates for a competency based curriculum.

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