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## Universal Constructs Essential for 21<sup>st</sup> Century Success

### Introduction

It is necessary, even imperative, to think about 21<sup>st</sup> century skills and outcomes in terms of change: change in instructional practices, in content, and in expectations for teachers and students. The preface to Tony Wagner's book *The Global Achievement Gap* summarizes his experiences and observations regarding change in education from when he was a doctoral student, through his work as a consultant for nonprofits, as a university professor and as an advisor to the education program of the Bill and Melinda Gates Foundation. The schools he studied in 1988 and visited again ten years later, had not changed even though they were engaged in a variety of "reforms." Wagner suggests that teachers did not understand the reasons for these initiatives and did not feel a sense of urgency for change because their work isolated them from the "larger world of rapid change". They had lived through so many failed education fads that their efforts were half-hearted and as a result, course curricula and instructional practices have remained pretty much the same for fifty years. Meanwhile business leaders are frustrated because they see no evidence that students are leaving schools better prepared for the workplace; parents have anxiety about their children's futures in a world they see as much more competitive than the one they grew up in. Wagner presents a case for an updated context for schooling resulting from globalization, unlimited amounts of information, and the impact of media and technology on our work and our relationships. (Wagner, p. xxvi)

Rather than the achievement gap between subgroups of students that educators typically discuss, Wagner's **global** achievement gap is the gap between what the **best** schools are teaching and testing and what **all** students need to succeed as learners, workers and citizens in today's global knowledge economy. (Wagner, p. 8) His conversations with business leaders led to the identification of what he calls the "Seven Survival Skills for the 21<sup>st</sup> Century." (Wagner, p. 14) Among the skills he included are collaboration across networks and leading by influence; curiosity and imagination; initiative and entrepreneurialism; and agility and adaptation. Additionally, Wagner's walking tours of high schools with high student achievement (Wagner, pp. 46-59) and a University of Virginia study of elementary classrooms (Wagner pp. 68-69) led him to conclude that (1) teachers are focused on the basics, and (2) students are not being asked to do much explanation of their thinking, analysis, synthesis, or reasoning: the primary skill being taught was memorization. (Wagner, p. 53) It is up to school leaders, teachers and administrators, to provide the impetus for change, to build a culture of continuous improvement, and to support their colleagues during the process.

### Iowa's 21<sup>st</sup> Century Skills Story: Background and Process

The Iowa Department of Education established work teams to develop essential concepts and skill sets for the "twenty-first century learning skills which shall include but are not limited to civic literacy, health literacy, technology literacy, financial literacy and employability skills..." listed in Iowa Senate File 2216. The committees included representatives from K-12 and post-secondary education, county health services, consumer credit services, business and industry. The committees surveyed the literature, studied standards from relevant professional organizations, and developed the concepts and skill sets for 21<sup>st</sup> Century Skills, first for grades 9-12, then for grades K-8. The committees received feedback from several sources, edited the work, and the essential concepts and skill sets were adopted by the state board of education and became part of the Iowa Core (IC).

Once this work was completed, the content of the IC for 21<sup>st</sup> Century Skills was in place. Those concepts and skill sets deemed essential had been identified and provided a mandate for Iowa districts to **implement** a guaranteed, viable curriculum for **all** students. Rather than confining the essential concepts and skill sets to specific courses, their integration throughout **all** content areas was a central theme of IC best practice. The characteristics of effective instruction had been identified and tools were being developed to support student engagement, alignment and assessment.

But something was missing: the types of **student outcome, habits of mind or dispositions** that Wagner called “survival skills” had not been specifically included in the IC. Although some teachers might consider them to be important, and districts might cite them as competencies their students should possess at graduation, there had been no systematic process for identifying and defining these outcomes as an essential part of the IC. The Department established a work team whose challenge was to identify and define these outcomes for Iowa students. It was also about this time that Iowa became the thirteenth state to join the Partnership for the 21<sup>st</sup> Century, a national organization that has established a vision and comprehensive framework to support the acquisition of the competencies students need to be productive in our changing world.

The committee members represented a broad spectrum of stakeholders, similar to the membership of the teams that wrote the essential concepts and skill sets for the 21<sup>st</sup> century content areas listed in Iowa legislation. They surveyed current literature, as well as such sources as the 1992 SCANS report, and agreed that there were six outcomes, or constructs, that if **intentionally** taught in Iowa schools, would fill Wagner’s global achievement gap. The next step in the process was to expand the construct definitions in order to examine their complexity and identify the embedded concepts. To really teach something well, it is important to define it. If this stage is skipped, we may not really identify the **characteristics** of what must be taught, and they may not align with the demands of the world beyond school.

The committee, with assistance from the Department of Education, discussed at length a collective term to use in referring to the six outcomes. “Universal” implies that the constructs are significant for everyone and are comprehensively broad, pertaining to all content. A “construct” is a conceptual model or schematic: thus the term “Universal Constructs Essential for Success in the 21<sup>st</sup> Century” was adopted. Iowa’s universal constructs are creativity, critical thinking, collaboration, complex communication, flexibility/adaptability, and productivity/accountability.

### **The Role of References in the Committee’s Work**

Wagner is not the only author to discuss student outcomes for the 21<sup>st</sup> century. Various sources do not use the same terms to refer to the same outcomes. They make a compelling case for attention to authentic workplace competencies in school curricula and most cite research and statistics that create a sense of urgency for a response to the changing nature of the workplace and our global society. The committee used references to (1) expand their knowledge and understanding of the outcomes in order to write expanded definitions (2) develop a rationale for selection of specific outcomes and (3) select those outcomes for inclusion in Iowa’s framework that appeared across many sources. The committee members encourage Iowa school leaders to use a variety of references to build capacity among teachers and community members. This is an important step in understanding, or developing a sense of how the universal constructs should look through a 21<sup>st</sup> century lens. A few key resources and main ideas follow.

- Arthur Costa defines a “habit of mind” as a pattern of intellectual behaviors that lead to productive actions. His habits of mind as “learning outcomes” include persisting; managing impulsivity; thinking flexibly; thinking about thinking (metacognition); striving for accuracy; questioning; and thinking and communicating with clarity and precision.
- In *Defining a 21<sup>st</sup> Century Education*, Craig Jerald answers the question, ‘What specific kinds of knowledge and skills will be most important in the 21<sup>st</sup> century? He states that because of technology, globalization, and other competitive forces, companies have radically restructured how work gets done. Organizations are “flatter”, and workers have less supervision, greater autonomy and more personal responsibility for the work they do. They also have a greater burden of risk and responsibility for their personal well-being when it comes to things like job security, health care, and financial planning. (Jerald, p 22)
- Jerald and Wager make a case for integrating the skills into rigorous content. In *The Global Achievement Gap*, Wagner stated that in the schools he visited, teachers who used academic content as a means to teach students how to communicate, solve problems and reason were the exception—fewer than one in twenty. However, in an *Educational Leadership* article, “Rigor Redefined” Wagner cautions against putting content expertise first. In interviews he found that even engineers and technicians put asking good questions and engaging in good discussion in a collaborative environment ahead of content expertise.
- The Organization for Economic Co-operation and Development, OECD, used these criteria to select key competencies: (1) contribute to valued outcomes for society and individuals; (2) beneficial in a wide spectrum of contexts; and (3) important for **all** individuals, not just experts or those in certain occupations.
- Although the report of the Secretary’s Commission on Achieving Necessary Skills (SCANS) was first published in 1992, the committee members representing business and industry believed it still to be a significant, relevant source. It provides a three part structure for student competencies: (1) basic academic skills; (2) thinking skills such as decision-making, creativity, problem solving, reasoning; and (3) personal qualities such as integrity, responsibility, self-management, and adaptability. It is interesting to note, and might be a topic of discussion for school staff, that after eighteen years, we are still searching for ways to integrate these competencies or constructs into instructional practices that reach **all** students.

Using varied resources gave validity to the process and provided some assurance that the selected outcomes were research-based. The committee discussed and found specific links to the characteristics of effective instruction. It is essential that teachers embrace the instructional component, that they ask and answer this question: ‘What did I do today to relate my lessons to the universal constructs?’ The universal constructs should be embedded in rigorous curriculum and should permeate instruction.

It is important that teachers and students be able to expand on the definitions of the universal constructs and to articulate how they relate to authentic experiences and real-world situations, i.e. that they can operationalize the constructs. Given the elaborated definitions and supporting instructional and professional development materials, teachers will be able to integrate the constructs into content and instructional practice. If we are to make the necessary changes to close Wagner’s global achievement gap, it is every teacher’s responsibility to constantly think about the universal constructs and how they can be infused or enhanced in the classroom.

## Key References

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