IV. ABOUT THE HSSSE AND THE MGSSE

User's Guide and Toolkit for the Surveys of Student Engagement: The High School Survey of Student Engagement (HSSSE) and the Middle Grades Survey of Student Engagement (MGSSE)

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The High School Survey of Student Engagement (HSSSE) was launched in 2003. It grew out of the National Survey of Student Engagement (NSSE), a survey developed by the Center for Postsecondary Research at Indiana University to measure the level of student participation at universities and colleges in Canada and the United States.

The HSSSE (pronounced "hessie") is a comprehensive survey of student engagement and school climate issues. More than 400,000 students in more than 40 states completed the survey between 2006 and 2013. The HSSSE is designed to help schools ascertain students' beliefs about their school experience and to provide assistance to schools in translating data into action.

The HSSSE's primary purposes include the following:

- To help high schools explore, understand, and strengthen student engagement
- To work with high school teachers and administrators on utilizing survey data to improve practices
- To conduct research on student engagement

Until 2013, the HSSSE was a research and professional development project directed and administered by the Center for Evaluation and Education Policy (CEEP) at Indiana University as a fee-for-service to schools, districts, and other groups that wanted to examine high school student engagement. Starting in 2012, however, the use of HSSSE survey items by schools, districts, and researchers is permitted without charge.[1]

In 2012, NAIS and the NAIS Commission on Accreditation partnered with CEEP to offer the HSSSE to a group of independent schools in a three-year pilot study, beginning in the spring of 2013. The study had three main purposes:

1 Although the HSSSE questionnaire is free, NAIS schools pay for the individual reports and the benchmarking reports, plus additional items.

- To help schools assess their effectiveness in providing social/emotional support for academic success, especially student progress related to 21st century capacities
- To develop a way for schools to comply with learning assessment standards without using standardized achievement tests
- To capture data showing the value-added experience of independent school education

Eighty-six independent schools participated in the pilot, with around 55 to 60 schools administering the HSSSE to their ninth- through 12th-grade students each year during the spring of 2013, 2014, and 2015. After the successful implementation of this pilot, NAIS extended the opportunity to use the HSSSE to all of its member schools.

At the request of NAIS, CEEP launched the Middle Grades Survey of Student Engagement (MGSSE) in spring 2016.

The HSSSE and the MGSSE align student engagement with national research, which conceptualizes student engagement as a complex, multidimensional construct that includes three elements:

- Cognitive aspects (e.g., solving problems, using metacognitive strategies)
- Behaviors (e.g., persistence, effort, attention, taking challenging classes)
- Emotions (e.g., interest, pride in success)[2]

The HSSSE and the MGSSE measure the following dimensions of student engagement:

2 Jennifer A. Fredricks and Wendy McColskey, "The Measurement of Student Engagement: A Comparative Analysis of Various Methods and Student Self-Report Instruments." In *Handbook of Research on Student Engagement*, ed. Sandra L. Christenson, Amy L. Reschly, and Cathy Wylie (New York: Springer-Verlag, 2012), 763–782; online at http://www.lcsc.org/cms/lib6/MN01001004/Centricity/Domain/108/The%20Measurement%20of%20Student%20Engagement-%20A%20Comparative%20Analysis%20of%20Various%20Methods.pdf.

- Cognitive/intellectual/academic engagement
- Social/behavioral/participatory engagement
- Emotional engagement

Cognitive/intellectual/academic engagement captures students' effort, investment in work, and strategies for learning, including the work students do and the ways students go about their work. This dimension, focusing primarily on engagement during instructional time and with instruction-related activities, can be described as engagement of the mind. Survey questions that are grouped within this dimension describe these elements of student engagement:

- Students' effort, investment, and strategies for learning
- The work students do and the ways they do it
- Engagement during instructional time

Social/behavioral/participatory engagement emphasizes the ways in which students interact within the school community beyond the classroom, including nonacademic, school-based activities; social and extracurricular activities; and interactions with other students. This dimension, with its focus on student actions, interactions, and participation within the school community, can be described as engagement in the life of the school. Survey questions that are grouped within this dimension of engagement include students' involvement in social, co-curricular, and nonacademic school activities:

- Interactions with other students
- The ways in which students interact within the school community
- The engagement with the school outside of instructional time

Emotional engagement encompasses students' feelings of connection to (or disconnection from) their school — how students feel about where they are in school, the ways and workings of the school, and the people within the school. This dimension can be described as engagement

of the heart. It focuses largely on students' internal lives and is not frequently expressed explicitly in observable behavior and actions. Survey questions that are grouped within this dimension address these elements:

- Students' feelings (positive or negative) about their current school situation
- Students' attitudes toward the people with whom they interact, school work, and school structures
- Students' affective reactions

Validity and Reliability

School leaders working with the HSSSE or the MGSSE will likely find themselves being asked about the validity or reliability of the surveys. Sharing the results with key constituencies and employing them for continuous improvement and monitoring of interventions and programmatic changes can help with these doubts. Using the HSSSE or the MGSSE effectively will be difficult if there is a lack of confidence in its underlying psychometric properties. Indeed, you should not wait to be asked but take the initiative to put out the word that this is a reliable tool that generates confidence.

The HSSSE and the MGSSE are strongly grounded in the research and literature on student engagement and, in particular, on the research related to the engagement of high school and middle-grade students. Research describes student engagement as a multidimensional construct of behaviors, which include

- persistence;
- effort;
- attention;
- taking challenging classes;
- emotions (e.g., interest, pride in success); and
- cognitive aspects (e.g., solving problems, using metacognitive strategies).

The HSSSE and the MGSSE measure student engagement in each of the three dimensions (cognitive, behavioral, and emotional) identified in the research and literature.

Both survey instruments were intentionally designed to satisfy the conditions needed for self-reported data to be reliable:

1. Information is known to respondents.
2. Questions are phrased clearly and unambiguously.
3. Questions refer to recent activities.
4. Respondents think the questions merit a serious and thoughtful response.
5. Answering the questions does not threaten or embarrass students, violate their privacy, or prompt them to respond in socially desirable ways (e.g., concede to peer pressure).

The three survey tools designed by CEEP — the National Survey of Student Engagement for college students (NSSE), HSSSE, and MGSSE — were designed to satisfy these five conditions.

Researchers and educators often discuss survey trustworthiness in terms of the validity and reliability of the instruments. These concepts are multifaceted and have diverse definitions; there are multiple methods for examining reliability and validity. However, as a general concept, *reliability* refers to the degree to which an instrument produces consistent results across administrations. For example, a measure would not be reliable if one day it measured an object's length at 14 inches and the next day it measured the same object as 13 inches. As a general concept, *validity* refers to whether the results obtained from using an instrument actually measure what was intended and not something else.

Evidence that supports the validity and reliability of the HSSSE[3] includes the following:

- **Content validity (face validity).** Content validity addresses the question, "Do the survey questions cover all possible facets of the scale or construct?" This form of validity refers to the extent to which a measure represents all facets of a given construct. There are no statistical tests for this type of validity, but rather it relies on experts to determine whether the instrument measures the construct well. To establish content validity, CEEP convened an external Technical Advisory Panel in 2012–2013, which included national academic experts in student engagement, K–12 practitioners, and psychometricians. The Technical Advisory Panel examined the content validity of the HSSSE categories (i.e., dimensions of engagement), subcategories, and items to assess the extent to which the constructs aligned with current research and literature on student engagement. Items were revised, refined, or dropped from the instrument on the basis of recommendations from the Technical Advisory Panel. Therefore, the content validity of the HSSSE is supported by the integral involvement of the Technical Advisory Panel in the development and refinement of the HSSSE.

- **Construct validity.** Construct validity is the degree to which an instrument measures the characteristics (or constructs) it is supposed to measure. Construct validity addresses the question, "Does the theoretical concept match up with a specific measurement/scale?" The three dimensions of student engagement measured by the HSSSE and the MGSSE (cognitive engagement, emotional engagement, and behavioral/social engagement) are commonly regarded in research and literature as the key dimensions of high school and middle school student

3 Since the MGSSE is newly released, similar reliability and validity evidence is not available yet.

engagement.[4] Confirmatory factor analyses of HSSSE data support the construct validity of the subscales for the three dimensions of student engagement.

- **Response process validity.** Response process validity addresses the question, "Do respondents understand the questions to mean what they are intended to mean?" This form of validity refers to the extent to which the respondents understand the construct in the same way it is defined by the researchers. There are no statistical tests for this type of validity, but rather data are gathered via respondent observation, interviews, and feedback. To establish response process validity, CEEP conducted focus groups and cognitive interviews with students at seven high schools, using both paper and online versions of the instrument. Survey items were refined on the basis of respondents' feedback in order to establish response process validity.

- **Reliability.** CEEP specifically examined internal consistency reliability. Internal consistency reliability addresses the question, "Do the items within a scale correlate well with each other?" Internal consistency is the extent to which a group of items measure the same construct, as evidenced by how well they vary together, or inter-correlate. Internal consistency reliability is measured with Cronbach's alpha. A Cronbach's alpha coefficient greater than or equal to 0.70 is traditionally considered reliable in social science research.[5] For the HSSSE, the Cronbach's

4 Fredricks and McColskey, "Measurement of Student Engagement"; and Jennifer A. Fredricks, Phyllis C. Blumenfeld, and Alison H. Paris, "School Engagement: Potential of the Concept, State of the Evidence," *Review of Educational Research* 74, no. 1 (2004): 59–109; online at http://www.isbe.net/learningsupports/pdfs/engagement-concept.pdf.

5 Robert M. Thorndike and Tracy M. Thorndike-Christ, *Measurement and Evaluation in Psychology and Education*, 8th ed. (New York: Pearson, 2010).

> alpha reliability coefficient was calculated for each of the three dimensions of student engagement (cognitive engagement, emotional engagement, and behavioral/social engagement) using 2013–2015 data that included 64,911 students. The Cronbach's alpha was 0.71 to 0.91 for the subscales of cognitive engagement, 0.73 to 0.89 for the subscales of emotional engagement, and 0.70 for behavioral/social engagement.[6]

More generally, it should be noted and widely communicated that careful research has been conducted and has concluded that there is great value in student voice. Writing in *Kappan*, Harvard Professor Ronald Ferguson summarized research done by the Gates Foundation this way:

> [The Measures of Effective Teaching Project's] December 2010 report ranks teachers based on their student survey responses, then compares how much students learn in classes taught by teachers that students rate high compared to those that they rate low. One version of the analysis correlates survey responses with learning gains in other sections taught by the teacher during the same school year. Another examines gains in classrooms taught in the prior year. In each analysis, students of math teachers with Tripod survey rankings in the top quarter learned the equivalent of 4 to 5 months more per year, on average, than students of teachers with survey rankings in the bottom quarter....
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> Doubts about whether student responses can be reliable, valid, and stable over time at the classroom level are being put to rest. We are learning that well-constructed classroom-level student surveys are a low burden and high-potential mechanism for incorporating students' voices in massive numbers into our efforts to improve teaching and learning.[7]

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6 Please note that NAIS has not received enough information about the reliability of *individual* items to establish that they can be used with good authority, in and of themselves, to make claims, set goals, or monitor improvement. Hence, it would be unwise to select a single question or item (e.g., Question 4a: "Overall, I feel good about being in this high school") to support an argument that the school is being highly successful (or unsuccessful) or to check year-to-year for progress tracking. Some schools, though, do seek to unpack, explore, and draw greater conclusions from individual items by examining the qualitative evidence from the open-ended section of the survey, grouping it into categories and then associating those categories with responses on that individual item. You can see one such example of this practice in the Greenhill case study in Section VI.

7 Ronald Ferguson, "Can Student Surveys Measure Teaching Quality?" *Phi Delta Kappan* 94, no. 3 (2012): 24–28.

Similarly, researcher John Hattie, author of the widely referenced book *Visible Learning*, wrote in a 2015 monograph *What Works Best in Education*:

> There is … a need to include the student voice about teacher impact in the learning/teaching debates; that is, to hear the students' view of how they are cared about and respected as learners, how captivated they are by the lessons, how they can see errors as opportunities for learning, how they can speak up and share their understanding and how they can provide and seek feedback. … As the Visible Learning[8] research has shown, the student voice can be highly reliable, rarely includes personality comments and, appropriately used, can be a major resource for understanding and promoting high impact teaching and learning.[9]

8 "Visible learning" occurs "when teachers see learning through the eyes of students and help them become their own teachers." (John Hattie, *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement* [New York: Routledge, 2009].)

9 John Hattie, *What Works Best in Education: The Politics of Collaborative Expertise* (London: Pearson, 2015), 15.