Nebraska Technical Advisory Committee Meeting Nebraska Department of Education January 31, 2022 8:30-12:30

8:30-8:45 Welcome and Introductions Approval of Minutes from 5/27/21

Document 1: TAC Minutes 5-27-21

8:45-9:45 Spring Analyses Plan for ELA and Mathematics

The Spring 2021 administration in the midst of the ongoing Covid impacts means the scale will need to be evaluated for stability by Spring 2022. NSEA recommend holding the cut scores constant for Spring 2022 while we review the stability of the NCSAS scale and the related linked RIT scores. To evaluate the stability of the NCSAS scale, NWEA will perform post-administration psychometric analyses by conducting horizontal equating for each grade.

Once pre- or post-equated solution for scoring is decided, lowest obtainable scale score (LOSS) and highest obtainable scale score (HOSS) will be examined. From the 2021 NSCAS, we noticed that there were a larger than expected number of students who were received the LOSS+2 minimum score. Since the non-effortful response patterns are likely to result in the assigned LOSS+2 score, lowering the LOSS might be helpful in differentiating effortful but low-achieving students from those with non-effortful response patterns.

Final scores will be provided after evaluating the stability of the NCSAS scale for ELA and Mathematics. Before then, preliminary scores based on the current (i.e., pre-equated) item parameter estimates will be provided, with a note indicating that the preliminary score will be replaced with final score.

Document 2: NSCAS 2022 Spring Analyses Plan for ELA and Mathematics

- 1. Does TAC have any other suggestions for post-equating checks for ELA and Mathematics?
- 2. Does TAC have any suggestions for LOSS and HOSS adjustments for ELA and Mathematics?

9:45-10:00 Break

10:00-11:45 Plan for New NSCAS Science

The new NSCAS Science assessment has been designed to measure three-dimensional science learning, incorporating elements of Disciplinary Core Ideas (DCIs), Science and Engineering Practices (SEPs), and Crosscutting Concepts (CCCs). Science was administered as a full-scale field test in Spring 2021. The dimensionality study confirmed that the unidimensional measurement model is sufficient to model Nebraska science assessment in order to monitor and report student learning progress in science ¹. Based on the fit statistics results, NWEA recommended the 1PL and PCM combination model approach, as this combination model not only fit the data well, but also provided more reasonable item

¹ Nebraska Science 2021 Standalone Field Test Measurement Model 07-23-2021.pdf

difficulty parameters. Following the meeting between NDE and NWEA on September 22, 2021, the decision was made to move forward with the 1PL and PCM combination model and will reassess calibration model after the operational field test in 2022. Using the Spring 2022 data, NWEA will reassess the dimensionality and further investigate bi-factor model.

Once the measurement model is decided, Science items will be calibrated with the choice of model and student scores will be computed accordingly. If the decision is bifactor model, further investigation into scoring and reporting will be needed for score reporting in the following year. Then scaling, including scaling transformation constants, LOSS, and HOSS, will be discussed and determined.

The last step for new Science test is standard setting where cut scores are determined, which will occur in Summer 2022. Previously, NWEA used the Item-Descriptor (ID) Matching method, which was used for ELA cut score review and Mathematics standard setting in 2018. For science, the Range ALDs are more complex due to the multi-dimensional nature. In this case it may be more appropriate to focus on the bookmarking approach. NWEA would still use the opportunity to review the content in relation to the Range ALDs and make updates informed by data.

Document 3: Nebraska Science 2021 Standalone Field Test Measurement Model 07-23-2021.pdf

Document 4: NSCAS 2022 Science

- 1. Does TAC have any suggestions for Science calibration?
 - a. Does TAC recommend bi-factor model, given the item development based on three-dimensional science learning?
- 2. Which score ranges does TAC consider?
- 3. Does TAC have further input on the method of standard setting?

11:45-12:00 Break

12:00-12:30 Plan for NSCAS Alternate Science Standard Setting

The new NSCAS Alternate Science assessment has been designed to measure extended College and Career Ready Science Standards for students with significant cognitive disabilities. In Summer 2022, a standard setting will be conducted for the Alternate Science assessments. Prior to the workshop, DRC will engage special education practitioners in a virtual ALD development activity. DRC recommends a committee of 24-36 educators be convened for the standard setting, with one group formed per tested grade. The Angoff Yes/No method is suggested as part of a two-day, in-person workshop.

Document 5: Nebraska Alt Science Standard setting Design 1-25-2022.pdf

1. What benchmarked test data, if any, may be appropriate for standard setting participants to consider as part of the standard setting?