

# IMSA's Equity and Excellence Scorecard

September 2021

## Executive Summary

The Office of Diversity, Equity, and Inclusion, in collaboration with the Office of Institutional Research, has developed the Equity and Excellence Scorecard. The Equity and Excellence Scorecard is a process to measure the progress of the Illinois Mathematics and Science Academy (IMSA) Equity and Excellence Policy. This Scorecard was established through an intensive process which included the collection, organization, analysis, and interpretation of institutional data related to diversity, equity, and inclusion utilizing an array of assessments aligned with each outcome strategy identified within the Equity and Excellence Policy.

While a Technical Manual has been provided, this executive summary includes a brief overview of each assessment used, as well as the results of the initial administration. For ease of reading, the appendices have been structured to align with the implementation cycle of the Scorecard components.

## Equity and Excellence Scorecard Summary

The Equity and Excellence Plan is designed to operationalize the [2018 Board approved Equity and Excellence Policy](#), ultimately achieving the long and short-term outcomes as laid out in the policy and discussed below.

IMSA's Equity and Excellence Policy defined the long-term outcome as:

*The Academy recognizes and acknowledges the historical underrepresentation and marginalization of culturally, linguistically, and economically diverse groups, both universally, and particularly, in STEM education and professions. These disparities also exist in the representation of the Academy's workforce. We are committed to advancing equity in STEM education and representation and creating a diverse, inclusive community of global citizens who can realize their full potential, and execute our mission to advance the human condition, through a model of Equity and Excellence.*

It further defined seven intermediate outcomes, as needed to help IMSA achieve the long-term outcome. As part of this process, the six instruments, described in Appendix A below, were selected to start measuring IMSA's growth, development, and achievement in each of the seven outcomes listed. Although each instrument can provide evidence of change among the individual outcome areas, a single value which would summarize the overall progress towards advancing equity was warranted. Displayed below is a brief overview of how the Equity and Excellence Score was established.

## Equity and Excellence Score

Each of the six assessments/tools administered (i.e., Trauma Responsive School Implementation Assessment, STEM Equity Program Evaluation Rubric, Intercultural Development Inventory, Institutional Model for Increasing Faculty Diversity and Self-Assessment Tool, Student Diversity Climate Survey, and STEM Education Equity Analysis Tool) were selected based on their alignment to each outcome along with their strong evidence to support the reliability and validity of each instrument used. One limitation to creating an overarching Equity and Excellence Scorecard Value, was that each of the six instruments utilized

different scales of measurement, making it difficult to compare, contrast, or combine each score. To overcome this limitation, a linear transformation was applied to a majority of the measurements used such that each instrument's score would be re-scored on a new scale from 0 to 100.

The Student Diversity Climate Survey was not changed using this transformation because the value reported for the number of students feeling unsafe on campus was previously represented as a percentage, which has an existing scale of 0 to 100. Instead, the Student Diversity Climate Survey needed to be changed to a score of feeling safe on campus, since the overall goal of the scorecard is to measure growth towards Equity and Excellence. Therefore, the Student Diversity Climate Survey was calculated as follows:

$$\begin{aligned} \text{Diversity Climate Survey} &= \text{Maximum Scale Score} - \text{Percent of students feeling unsafe on campus} \\ &= 100 - 38.8 \\ &= 61.2\% \text{ of students feeling } \mathbf{\text{safe}} \text{ on campus} \end{aligned}$$

Using the formula shown below, the remaining five six assessments/tools used in the Equity and Excellence Plan were re-scaled. In doing so, each assessment/tool is given equal weight so that one instrument is not given more importance over another. The general formula used for the linear transformation of scores was as follows:

$$\text{Instrument's New Score} = \frac{(B - A)(\text{Instrument's Original Score} - a)}{(b - a)} + A$$

such that,

- a = minimum value of the scale to be converted
- b = maximum value of the scale to be converted
- A = minimum value of the new scale desired (i.e., 0)
- B = maximum value of the new scale desired (i.e., 100).

The table below summarizes the results of the transformations as well as IMSA's initial Equity and Excellence Score of **49.99** out of a possible 100.

*Linear Transformation of Instrument Scores*

Assessment Name	Overall Score	Instrument's Scale		Recalculated Score (Out of 100)
		Minimum	Maximum	
Intercultural Development Inventory	97.28	55	145	46.978
Student Diversity Climate Survey	61.2	0	100	61.200
Trauma Responsive School Implementation Assessment	2.04	1	4	34.667
STEM Education Equity Analysis Tool	3.18	1	4	72.667
STEM Equity Program Evaluation Rubric	2.8	1	4	60.000
The Institutional Model for Increasing Faculty Diversity and Self-Assessment Tool	21	0	86	24.419
Sum of Scores	299.930			
IMSA Equity and Excellence Score	49.988			

## **Appendix A**

### **Assessment Overview**

#### *Trauma Responsive School Implementation Assessment*

The Trauma Responsive School Implementation Assessment (TRS-IA) is an evidence-informed self-assessment tool that can be used to identify strong trauma responsive programming and policy domains, as well as domains that have greater room for improvement. IMSA is utilizing the TRS-IA in a pre- post-manner to determine if the differentiated social-emotional supports developed reduces the trauma students' face because of their social identities, resulting in them feeling safer at IMSA.

Data from the initial administration included the responses of eight individuals whose responses were summarized in an auto-generated report by the Treatment and Services Adaptation Center and the National Center for School Mental Health for the SHAPE System. The Overall Composite Score was calculated as the average of the items within each of the eight domains, resulting in an initial Overall Composite Score of 2.04 out of 4.

#### *STEM Equity Program Evaluation Rubric*

The STEM Equity Program Evaluation Rubric was designed to help program administrators, designers, implementers, and funders identify the critical attributes of a STEM program to determine the degree to which it is inclusive and supports access and success for students who historically have not engaged in STEM. As such, IMSA is utilizing this tool in a pre- post- manner to inform members of the PROMISE (Providing Opportunities for Mathematics and Science Enrichment) program and the Center for Teaching and Learning (CTL) Student Education Programs Team the extent to which their programs meet the standards of equity in STEM education and guide their teams to design strategies to grow towards “accomplished” in each of the eight attributes.

Results from the initial administration included the responses of 15 individuals, six of which were from the CTL Student Education Programs Team and the other 9 were from the PROMISE program. The Overall Composite Score was calculated by finding the average of all responses across the rubric, which resulted in a score of 2.80 out of 4 for the initial administration.

#### *Intercultural Development Inventory® (IDI®)*

The Intercultural Development Inventory® (IDI®) assesses intercultural competence – the capability to shift cultural perspective and appropriately adapt behavior to cultural differences and commonalities. IMSA is utilizing this inventory in a pre- post- manner to measure the development of cultural competence among staff, including faculty.

Data from the initial administration was collected and analyzed by a Qualified Administrator who also provided IMSA with their Group Profile Report. Beginning in February 2021, IMSA's Developmental Orientation score was 97.28, placing them within minimization.

### *The Institutional Model for Increasing Faculty Diversity and Self-Assessment Tool*

The Institutional Model for Increasing Faculty Diversity and Self-Assessment Tool evaluates the actions taken to effectively hire, retain, and support the success of underrepresented faculty in STEM. IMSA is utilizing this instrument to assess its' STEM faculty diverse talent acquisition practice, focusing on four core areas of institutional context, faculty recruitment, transition, and retention.

The initial administration of this tool included responses of five individuals from the Office of Human Resources along with two members of the Principal's Office. IMSA's initial Overall Compliance Score was 24% (i.e.,  $21/86 = 24\%$ ) with regard to the best practices for Inclusive Recruitment, Hiring, and Retention of STEM Faculty.

### *Student Diversity Climate Survey*

The purpose of the Student Diversity Climate Survey is to collect information about students' experiences at IMSA related to discrimination, biased language, and availability and accessibility of supportive resources. IMSA is using this survey to measure the extent to which students feel safe on campus year-to-year.

In March 2021, 503 students completed the Student Diversity Climate Survey. Of those students participating in the survey, 38.8% of students indicated that they felt unsafe on campus for one or more reasons ( $n = 195$ ). In other words, there were 61.2% of students who felt **safe** on campus. When asked about their safety on campus, students could respond that they felt unsafe on campus because of: their sexual orientation, their race or ethnicity, their gender, how they express their gender, their religion, their disability or people thinking they have a disability, or the color of their skin. More specifically, students identifying as Black or African American were much more likely to report that they felt unsafe on campus (57.4%).

### *STEM Education Equity Analysis Tool*

The STEM Education Equity Analysis tool is a self-assessment instrument that fosters an opportunity to critically reflect on current school policies and practices. In particular, this tool invites schools into a self-evaluation of equity in Science, Technology, Engineering, and Mathematics (STEM) teaching and learning, with an eye toward graduating students who are prepared for and excited about engaging in STEM careers. As such, IMSA is utilizing this tool in a pre- post- manner to measure the growth and development of Cultural Competence and equity awareness in staff, including faculty.

Data from the initial administration included the responses of 64 individuals, 12 of which identified as staff and the remaining 52 were faculty. An Overall Composite Score was calculated as the average of all responses on all of the items and is represented by a score of 3.18 out of 4.