



### **STEM MINDEDNESS: INCLUSIVE PRACTICES**

*Inclusive practices in a STEM school ensure gate-keeping processes are fair, course offerings are comprehensive and all students receive support to achieve success in STEM.*

At one time, the "pinnacle" STEM careers, such as engineers, researchers or physicians, belonged to a select few. Today, STEM-minded schools practice multidimensional inclusion. These schools promote all students as being STEM-capable citizens, competent for success in college and careers.

#### **Supports All Students**

One dimension of inclusion is that STEM schools encourage and support all students equally in their pursuit of STEM careers. This type of inclusion is most prominent at open-access schools—programs that service all students without restrictions. These types of STEM schools should be acutely aware of their underserved and at-risk students, providing them with equal opportunities to succeed.

#### **Fairness in “Gate-Keeping”**

A second dimension of inclusion in STEM education is fairness in “gate-keeping.” Elite STEM schools accepting only highly motivated students with a record of high achievement should have an unbiased assessment process in place to select students using multiple measures of assessment. In the same way, other STEM schools offering gifted and advanced courses should have a similar system in place to ensure student selection into those courses is inclusive.

#### **Comprehensive Offerings**

A third dimension of inclusion in STEM education is comprehensive STEM offerings. Georgetown University’s Center on Education and the Workforce STEM Report states, “The STEM supply problem goes beyond the need for more professional scientists, engineers and mathematicians.” The authors of the report note that the demand for STEM knowledge, skills and abilities is growing rapidly across workforce clusters. The reality of the job marketplace is that there are millions of jobs for STEM-capable people in manufacturing, finance, technical fields, agriculture and other industries.

STEM schools are inclusive by providing a broad vision for the world of STEM career opportunities. Schools should consider job trends and offer not only classes serving those students striving for “pinnacle” STEM careers, but also those in historically “vocational” fields.

#### **STEM-Capable Citizens**

Finally, inclusion is as much about citizenship as it is about college and careers. Every individual ought to be STEM-capable enough to make good decisions in life and in the voting booth. Further, all students should possess 21st Century skills, be computer literate and comfortable with a certain degree of technology.

**Honor Inclusion**

While schools may offer specialty learning opportunities or focus on specific kinds of learners, all STEM-minded schools can honor the inclusion principle by ensuring opportunities for college, careers and citizenship are equitable and appropriately STEM-focused.

**Bibliography**

Georgetown University Center on Education and the Workforce. STEM Report. 2011.

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#### **Guiding Questions**

*Use the reflection questions below to guide discussions. We recommend documenting evidence to support each question. Doing so will assist you in setting action plans, goals, and progress monitoring.*

#### **Supports All Students**

- In what ways is your school encouraging and supporting all students equally in their pursuit of STEM careers?
- What are some strategies you are using to promote STEM careers with your underserved and at-risk students?

#### **Fairness in “Gate-Keeping”**

- For schools using a competitive application process for admission, what assessment measures are you using to ensure that your selection process and acceptance decisions are unbiased?

#### **Comprehensive Offerings**

- What are some of the current STEM related job trends in your area?
- What are you doing to ensure that all students—those seeking the “pinnacle” STEM careers and those seeking historically “vocational” fields—are provided learning opportunities aligned to these STEM trends in your area?

#### **STEM Capable Citizens**

- How is your school ensuring that every student is STEM capable enough to make good decisions in life and in the voting booth?
- In what ways are you ensuring that all students possess 21st Century skills, be computer literate, and be comfortable with technology?

#### **Honor Inclusion**

- What are you doing to ensure that opportunities for college, careers, and citizenship are equitable and appropriately STEM focused?