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Drawing a Positive Mathematics Identity: Portrait of a Maths Person

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Math with the Brain in Mind

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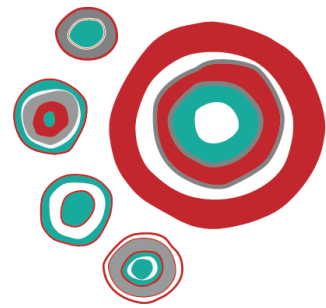


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Recommended Citation

Bondurant, L., & McConchie, L., (2024). Drawing a positive mathematics identity: Portrait of a maths person. *Proceedings of the 15th International Congress on Mathematical Education*. Sydney, Australia. <https://icme15.org/>

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ICME-15

7-14 July 2024 • ICC Sydney, Australia

Come and be counted

5.1: Student identity, motivation, and attitudes towards mathematics and its study

Drawing a positive mathematics identity: Portrait of a maths person

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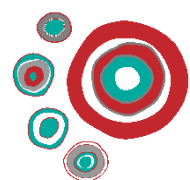
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Bondurant, L., & McConchie, L. (2024). Drawing a positive math identity: Portrait of a math person. *Mathematics Teacher: Learning and Teaching PK-12*, 117(2), 115-120. <https://doi.org/10.5951/MTLT.2023.0226>

How “Portrait of a Math Person” Connects to Identity Domain Standard

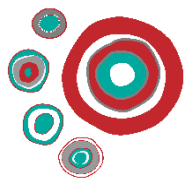
| Identity Domain Standard | Identity Categories | Grades 6-8 Outcome | “Portrait of a Math Person” |
|--|------------------------------------|--|---|
| Students will develop positive social identities based on their membership in multiple groups in society. | Personal Future | I know and like who I am and can comfortably talk about my family and myself and describe our various group identities. | Students draw self-portraits. |
| Students will develop language and historical and cultural knowledge that affirm and accurately describe their membership in multiple identity groups. | Future | I know about my family history and culture and how I am connected to the collective history and culture of other people in my identity groups. | Students learn about mathematicians who they share identity markers with. |
| Students will recognize that people’s multiple identities interact and create unique and complex individuals. | Future | I know that overlapping identities combine to make me who I am and that none of my group identities on their own fully defines me or any other person. | Students learn about mathematicians who have multiple identities. |
| Students will express pride, confidence, and healthy self-esteem without denying the value and dignity of other people. | Past Personal Socio-cultural | I feel good about my many identities and know they don’t make me better than people with other identities. | Students draw and display self-portraits. |
| Students will recognize traits of the dominant culture, their home culture and other cultures and understand how they negotiate their own identity in multiple spaces. | Past Socio-cultural | I know there are similarities and differences between my home culture and the other environments and cultures I encounter, and I can be myself in a diversity of settings. | Students discuss Google search results. Students learn about mathematicians who they share identity markers with. |

Note. Reprinted from “Social Justice Standards: The Learning for Justice Anti-Bias Framework,” by Learning for Justice, 2022.



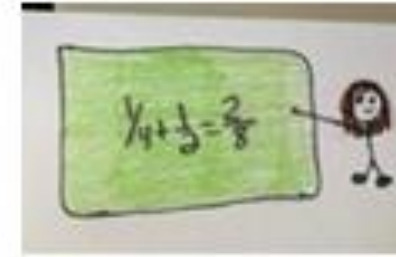
Resources and additional activities that can be used to affirm traditionally marginalized students belonging in mathematics:

1. **Famous Mathematicians:** Regularly introduce students to mathematicians whose race, ethnicity, gender, and/or culture matches the students you work with. There are many wonderful resources available online. We have used:
2. **Guest Speakers:** Invite local guest speakers to your classroom to speak about their careers involving mathematics. Focus on speakers who represent the cultures of those most marginalized in your classroom.
3. **Former Students:** At the end of the school year, have students record short 1–2-minute videos of themselves sharing how they felt in your math class and how they were able to succeed. Collect the videos and show them to your students the following year.
4. **Near Peer Mentoring:** Invite students who attended your school in the past five years and share identity markers with your current students to share a recorded or in-person testimonial about their mathematical journeys. A cascading model of near peer tutoring may also be beneficial.



| | | |
|--|---|--|
| <p style="text-align: center;">AWM Even Quads</p>  <p style="text-align: center;">https://awm-math.org/publications/playing-cards/deck1/</p> | <p style="text-align: center;">MEET a Mathematician</p>  <p style="text-align: center;">https://www.meetamathematician.com/</p> | <p style="text-align: center;">Mathematically Gifted & Black</p>  <p style="text-align: center;">https://mathematicallygiftedandblack.com/</p> |
| <p style="text-align: center;">Lathisms</p>  <p style="text-align: center;">https://www.lathisms.org/posters</p> | <p style="text-align: center;">AMS Posters</p>  <p style="text-align: center;">https://ebus.ams.org/ebus/Default.aspx?TabID=1602</p> | <p style="text-align: center;">Mathigon Timeline</p>  <p style="text-align: center;">https://mathigon.org/timeline</p> |

First implementation
before activities

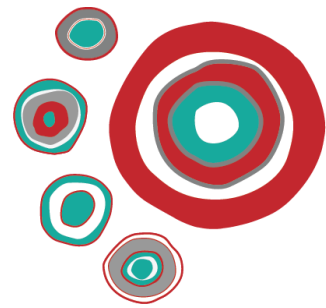


First implementation
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Second implementation
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