The Importance of Mindset

Character Education Global Conference
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Eduardo Briceño
ebriceno@mindsetworks.com
Character

We want to develop people to:

**Intend well**

*Moral character*

&

**Realize their intentions**

*Performance character*
We want to develop people to:

- Intend well
- Realize their intentions
Character

We want to develop people to:

Intend well  Moral character
&
Realize their intentions  Performance character
A Growth Mindset
Fixed Mindset

Intelligence (or an ability) is a fixed trait

Growth Mindset

Intelligence (or an ability) can be developed
Problem: $\frac{d^2z}{dt^2} + z = 0, \ z(0) = 0, \ z'(0) = 0, \ 0 < t < 1$

$BC \ \{ \begin{align*}
\phi (c, 0) &= 0, \ c < c_0 \\
\phi (c, 0) &= 0, \ c < c_0
\end{align*} \}$

We: $v^2 = \frac{1}{2} r^2 + \frac{1}{2} \frac{p^2}{m} \rightarrow$ separable: $q(x, a) = f(r(x))$

$\Rightarrow \ \frac{1}{2} (r f')' + g''(x) + \lambda f^2 = 0 / f'^2$

$\Rightarrow \ \frac{1}{2} r (r f')' + r^2 \lambda = \frac{1}{2} g''(x) \ \lambda$

$\Rightarrow \ \{ \begin{align*}
\text{A-problem: } & g''(x) + \lambda g(x) = 0 \ \rightarrow \ g(0) = g(1) = 0 \\
\text{B-problem: } & r (r f')'(x) + \lambda f^2 = 0, \ f(a) = 0 \\
& \text{and } f(a) \text{ finite}
\end{align*} \}$

By Spyros Papaspyropoulos
Belief → Behavior → Outcomes
(Mindset)
Performance Character & a Growth Mindset
We want people to:

Realize their intentions

**Performance character** is a set of dispositions (beliefs, intentions, know-how, & habits) that drive effectiveness.
**Fixed Mindset**

Intelligence (or an ability) is a fixed trait

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**Growth Mindset**

Intelligence (or an ability) can be developed
Fixed Mindset

Intelligence (or an ability) is a fixed trait

Look smart
Negative
Avoids challenges
Helpless
Defensive
As threats

Growth Mindset

Intelligence (or an ability) can be developed

Learn & grow
Positive
Seeks challenges
Resilient
Learning-oriented
As lessons & inspiration

GOAL

VIEW OF EFFORT

CHALLENGE-SEEKING

RESPONSE TO SETBACKS

RESPONSE TO CRITICISM

VIEWS OTHERS’ SUCCESS
Impact of Mindset on Achievement
Mindset Impact on Achievement

- Your intelligence is something you can't change very much.

- You can learn new things, but you can't really change your basic intelligence.

- No matter who you are, you can change your intelligence a lot.

...
Mindset Impact on Achievement


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College Example

Community college students’ who believe math ability can be developed have higher entering math ability and improve faster.

(Yeager et al, 2013, study of 500 community college developmental math students attending 19 colleges around the country)
Workplace Example

When managers assume that abilities are fixed traits, they tend to inadequately recognize actual changes in employee performance and are disinclined to coach employees regarding how to improve.

Study 2: Influencing the belief
Can we influence the belief?

**Fixed Mindset**
- Intelligence (or an ability) is a fixed trait

**Growth Mindset**
- Intelligence (or an ability) can be developed
Belief  ➔  Behavior  ➔  Outcomes
(Mindset)
Khan Academy Experiment

• Khan Academy online learning
• N = 250,000+
• Intervention delivered in units on fractions
Adding fractions

\[ \frac{7}{10} + \frac{6}{12} = ? \]
If at first you don't succeed, try again.

\[ \frac{7}{10} + \frac{6}{12} = ? \]
Added messages like

“Some of these problems are hard. Do your best.”
“If at first you don't succeed, try again.”
“Set your goals high, and don't stop until you get there!”
Added messages like

“Some of these problems are hard. Do your best.”
“If at first you don't succeed, try again.”
“Set your goals high, and don't stop until you get there!”

“Remember, the more you practice the smarter you become!”
“When you learn a new kind of math problem, you grow your math brain!”
“The harder you try the better you get!”
General Encouragement
- Some of these problems are hard. Just do your best.
- If at first you don't succeed, try again.

Growth Mindset
- Remember, the more you practice the smarter you become!
- When you learn a new kind of math problem, you grow your math brain!
Correct Answers Post-Treatment
Study 3: More deliberate growth mindset development
Developing a Growth Mindset
Blackwell, Trzesniewski, & Dweck (2007), Study 2

- workshop on the brain and study skills
- half of the students also taught that intelligence can be developed

See full article at: http://www.mindsetworks.com/websitemedia/youcangrowyourintelligence.pdf
Impact of Teaching a Growth Mindset

Change in Math Grades

% Identified by Teachers as Increasing in Motivation


“Your workshop has already had an effect. L, who never puts in any extra effort and often doesn’t turn in homework on time, actually stayed up late working for hours to finish an assignment early so I could review it and give him a chance to revise it. He earned a B+ on the assignment (he had been getting C’s and lower).”
Community college students who read about the science behind the growth mindset and then wrote persuasive essays advocating this message Three months later achieved a GPA 0.27 higher than the control group. And whereas 17% of students withdrew from developmental math courses in the control group, only 5% did so in the growth mindset treatment group

(Yeager et al, 2013, study of 300 community college developmental math students)
Workplace Example

A growth-mindset intervention can lead managers to relinquish their fixed mindset and subsequently provide more accurate performance appraisals and helpful employee coaching.

Mindset helps close the success gap

Moral Character & a Growth Mindset
We want people to:

Intend well

**Moral character** refers to having intentions and making decisions consistent with a good or right code of conduct.
Fixed Mindset

Intelligence (or an ability) is a fixed trait

Growth Mindset

Intelligence (or an ability) can be developed
Fixed Mindset

People’s traits or groups’ characteristics are fixed

Growth Mindset

People’s traits or groups’ characteristics can change
Fixed Mindset

People’s traits or groups’ characteristics are fixed

- Defensive
  - As threats
  - Fixed traits
  - Punish, retaliate
  - Higher depression

Growth Mindset

People’s traits or groups’ characteristics can change

- Learning-oriented
  - As lessons & inspiration
  - Situations & motivations
  - Compromise & educate
  - Higher resilience

RESPONSE TO CRITICISM

- Views Others’ Success
  - Attributes Wrong-Doing to Response to Wrong-Doing Upon Life Challenges
Effect of mindset on aggression & pro-social behaviors
2011 Study
(Yeager, Trzesniewski, Tirri, Nokelainen & Dweck, 2011)

• High School Students in the U.S. & Finland

• Adolescents who believed that people cannot change also harbored a greater desire for violent revenge after exclusion or bullying

• Reading a growth mindset article, showing that people can change, significantly reduced desire for revenge.
Desire for Vengeance
(“Get back,” “Hurt them,” “Punish them;” 7-point scale)
2012 Study
(Yeager, Trzesniewski & Dweck, submitted)

9th Graders randomly assigned to:

- Growth Mindset Workshop (6 sessions, 3 weeks)
- Coping skills Workshop (6 sessions, 3 weeks)
- No-treatment control group
<table>
<thead>
<tr>
<th>Session</th>
<th>Growth Mindset Workshop: “People do things because of thoughts and feelings that change”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Brain neuroanatomy + brain can change</td>
</tr>
<tr>
<td>3-4</td>
<td>People’s personalities live in their brains and can be changed.</td>
</tr>
<tr>
<td>5-6</td>
<td>People have many motivations for their actions and these motivations can change.</td>
</tr>
</tbody>
</table>
Coping Skills Intervention

- Six sessions from a popular social-emotional learning curriculum.

- Materials and activities matched to Growth Mindset group, including activities on how to apply the lessons in role plays

- Delivered by highly skilled trainers.

- The students rated workshops as equally engaging and informative.
No treatment control

- No sessions / lessons
One Month Later:

Measures of aggressive and pro-social behavior
Welcome to Cyberball, the Interactive Ball-Tossing Game Used for Mental Visualisation!

In the upcoming experiment, we test the effects of practising mental visualisation on task performance. Thus, we need you to practice your mental visualisation skills. We have found that the best way to do this is to have you play an on-line ball tossing game with other participants who are logged on at the same time.
Taste-testing activity

• Student asked to prepare food for one of the other players to taste, and told that partner has to eat all of it
  – has to use all ingredients (including hot sauce)
• Learns that peer does not like spicy food
• Students can also include a note with their food
Measures

• Measures:
  – aggression = grams of hot sauce
    • other studies show correlation with real-world aggression
    • and in this study, students suspended for fighting allocated twice as much hot sauce
  – pro-social behavior = pro-social content in note
    • Pro-social defined as including friendly warnings about the spiciness of the food, apologies for having to assign spicy food, or friendly comments in general
    – done by independent coders blind to condition
Sample Pro-social Note

I tried to put only a little bit of the hot sauce as I could because you circled you disliked it. So I hope it is not too much for you it's not that spicy I already tried it. So I hope you can handle how much I put in.
Sample Not Pro-social Note

I gave you alot because you don't like spicy!! 😊
(and because you didn't share the ball)
Vengeful Responses to Rejection
(one month after intervention)

Grams of hot sauce assigned to Cyberball partner

- No treatment control
- Coping skills control
- Incremental theory
Writing Pro-social Notes to Partner
(one month after intervention)
Three Months After the Intervention...
Students in Growth Mindset Intervention:

- Improved conduct in the classroom
- Fewer absences and tardies (especially for excluded students)
- Less depression (especially for excluded students)
Learning a growth mindset allowed students to:

- React constructively in the face of social challenges
- Adopt behaviors that are more conducive to learning
- Achieve a better school experience
Mindsets About Groups
The Middle East Conflict

Do Mindsets Predict Attitudes to Group in Conflict, and Support for Compromise?

- **Study 1: Jewish Israelis**
  - Assessed mindset about groups in general
    - e.g. “Groups can’t change their basic characteristics”
  - Assessed attitudes toward Palestinians
  - Assessed willingness to compromise
    - e.g. evacuate settlements, or shared sovereignty of Jerusalem

Malleable view of groups → More positive attitudes toward Palestinians → Higher willingness to compromise
Would changing mindsets alter attitudes and support for compromise?

- Study 2: Jewish Israelis
- Study 3: Palestinian citizens of Israel
- Study 4: Palestinians in the West Bank
Patterns of violence in groups can change over time because of changes:

- in the character of the dominant leaders
- in the environment of the group

Violent Groups can Change their Ways

When we witness violence, racism, or other immoral behaviors in social groups and nations, we often express the hope that the perpetrators will change their ways. The results of a series of studies, recently published, show that such hope is justified…. 
In all studies, the growth mindset condition:

• Improved attitudes toward the other group
  – including willingness to meet & hear the others’ point of view
    • (which predicts actual involvement in intergroup contact)
• Improved willingness to make major compromises
Observations:

• Sometimes people see character as something that can’t change
  – goes against the idea of character education
  – creates challenges in promoting positive character

• Even in the face of prolonged conflict, deeply rooted beliefs may be malleable

• Cultivating a growth mindset about groups may be a useful component in efforts to address conflict
Key Takeaways
Looking smart  
Negative  
Avoids challenges  
Helpless  
Defensive  
As threats  
Fixed traits  
Punish, retaliate  
Higher depression

**GOAL**  
**VIEW OF EFFORT**  
Challenge-seeking  
Response to Setbacks  
Response to Criticism  
Views Others’ Success  
Attributes Wrong-Doing to Response to Wrong-Doing Upon Challenges

Learning & growth  
Positive  
Seeks challenges  
Resilient  
Learning-oriented  
As lessons & inspiration  
Situations & motivations  
Educate, compromise  
Higher resilience
• A growth mindset contributes to positive character

• Growth mindset efforts need to be focused on the specific growth mindset beliefs
  – intelligence and abilities can be developed
  – people can change
  – groups can change

• Fostering a growth mindset also promotes academic performance, efficacy, and lifelong growth
What insights are you taking away?
What will you do differently?
Resources


• Growth Mindset TEDx talk video: [http://www.youtube.com/watch?v=pN34FNbOKXc](http://www.youtube.com/watch?v=pN34FNbOKXc)


• Mindset Works newsletter: [http://community.mindsetworks.com/newsletter](http://community.mindsetworks.com/newsletter)

• Other resources: [http://www.mindsetworks.com/free-resources](http://www.mindsetworks.com/free-resources)
Thank you!

Newsletter: www.mindsetworks.com

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