



What schools can do to promote students' talent development

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The path of this presentation

- Context of my openness to talent development
- Describing the process of talent development derived from the psychology and education literature
- Strategies for implementing components of talent development
- More recent addition – insider knowledge
- New ways to work – TAD framework
- The future is open





Preparing myself for talent development

- ▶ Tannenbaum

He defined giftedness as the ability to perform or produce work “that enhances the moral, physical, emotional, social, intellectual, or aesthetic life of humanity.” Because many gifted people do not end up achieving their full potential, he believed that children and adolescents could be considered “potentially gifted.” True giftedness, he said, can only be demonstrated in adults who are “critically acclaimed performers or exemplary producers of ideas.”

- ▶ Specialized STEM Schools – insider knowledge – mentored research experiences
- ▶ Juilliard – psychosocial skills grow increasingly important



Presenting talent development as a blueprint for creative productivity.

Eight Principles:

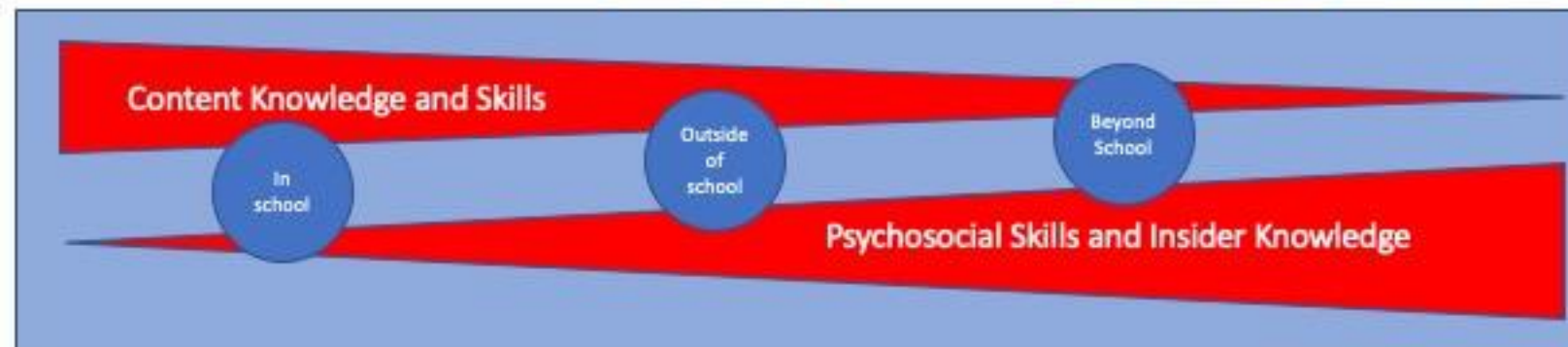
- Individual abilities matter, specifically domain specific abilities, and are malleable
- Opportunities are critical at every point
- Different talent domains have different trajectories
- Providing a pathway to outstanding achievement is a long- term project
- Opportunities must be taken
- Mental skills are critical to the development of talent
- Social skills are critical to the development of talent
- New - Insider knowledge is critical to the development of talent

Childhood > Adolescence > Young Adulthood > Adulthood

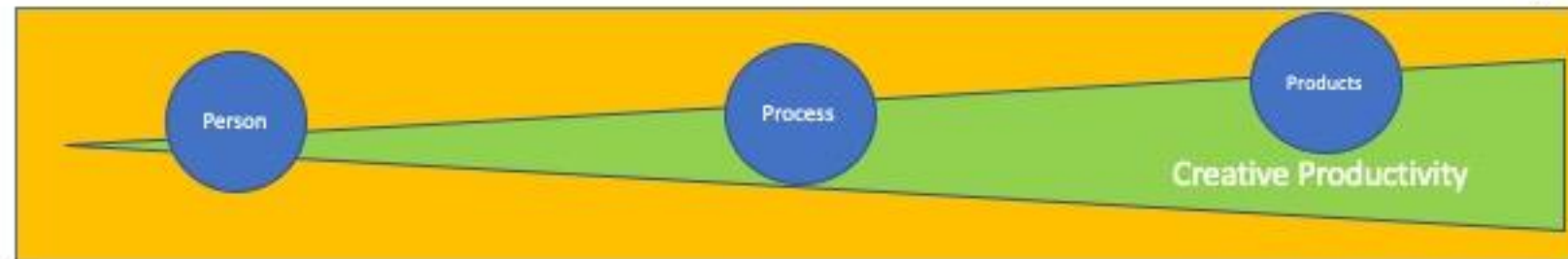
Dance Potential Competency Expertise Eminence

Social Science Potential Competency Expertise Eminence

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Mega Model of Talent Development



Principle 1:
Individual abilities matter,
specifically domain specific
abilities, and are malleable

- General ability is a good predictor of traditional school ability, and for performance in some domains more than others.

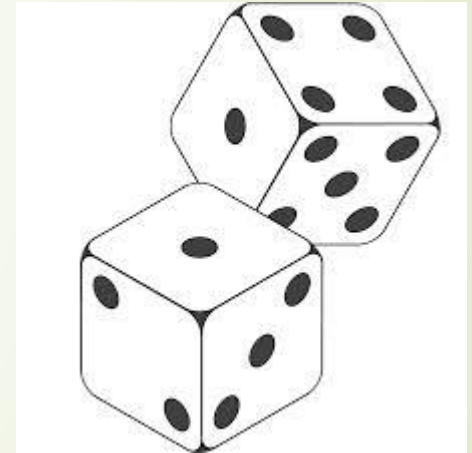
However, general ability is;

- Not sufficient for predicting full development of potential into creative productivity.
- For that you need domain talent as well.

Are Abilities Really Important, or is it...?

Many argue that very high-level performance, even in music, is *exclusively* due to

- Chance
- Privilege
- Effort



In fact, each of these statements is cumulatively correct, yet ability makes each variable more potent.



Two Examples of Identifying Talent using Domain Specific Abilities



Photo by Jim Varriale



A promising parallel venture

A pre-screening device for recreational mathematics

- Mathematical cast of mind
- Translating concepts into symbol systems
- Insight
- Number sense

Berna Falay Ok & Selin Kalaycioglu



Items under development

- ▶ Mathematical cast of mind
- ▶ Translating an abstract concept to a symbol system



Mathematical Cast of Mind (**Krutetskii**)



When you are riding in a car along the highway, which of these types of thoughts are you most likely to have?:

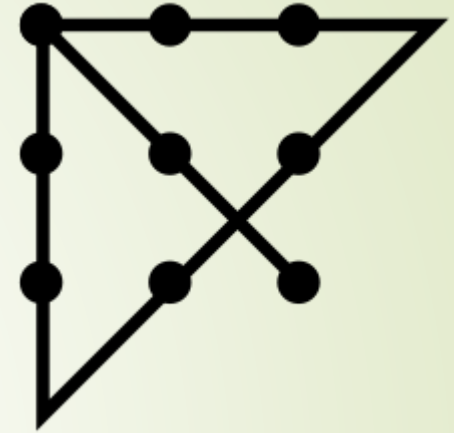
- a) Wondering what the people in the houses or other cars are like, and what they are doing.
- b) Wondering about the likelihood of seeing a license plate from another country.
- c) Wondering how many cars could fit on the road and maintain this speed.
- d) Wishing you could take a photo, paint a picture, or write a poem about the scenery.

If you could only use your fingers



Also

- Number sense
- Insight



Write 3 mathematical sentences that equal to zero. Here is an example: $8 \div 2 - 4 = 0$.

- You may use any of the numbers **1 - 9**, **but only once in each sentence**. [The sentence $1 \times 9 - 9 = 0$ is not correct because 9 is used twice.]
- You may use any of the symbols **+ - \times \div** , **but only once in each sentence**. [The sentence $6 - 5 - 1 = 0$ is not correct because - is used twice.]
- You may go back to using any number and operation in each new sentence.

Principle 2: Opportunities matter

Mapping teaching on to *developmental* trajectories both *inside and outside of school*

- ▶ Falling in love
- ▶ Skills, knowledge, values
- ▶ Your special niche and voice



Opportunities

- ▶ Affected by chance and family values
- ▶ First teacher makes a big difference
- ▶ Affected by judicious use of pressure/support
- ▶ Need professionals in place who are familiar with the insider knowledge of various domains



Principle 3:
Domains vary in when they begin



Domains vary also in when they peak and end

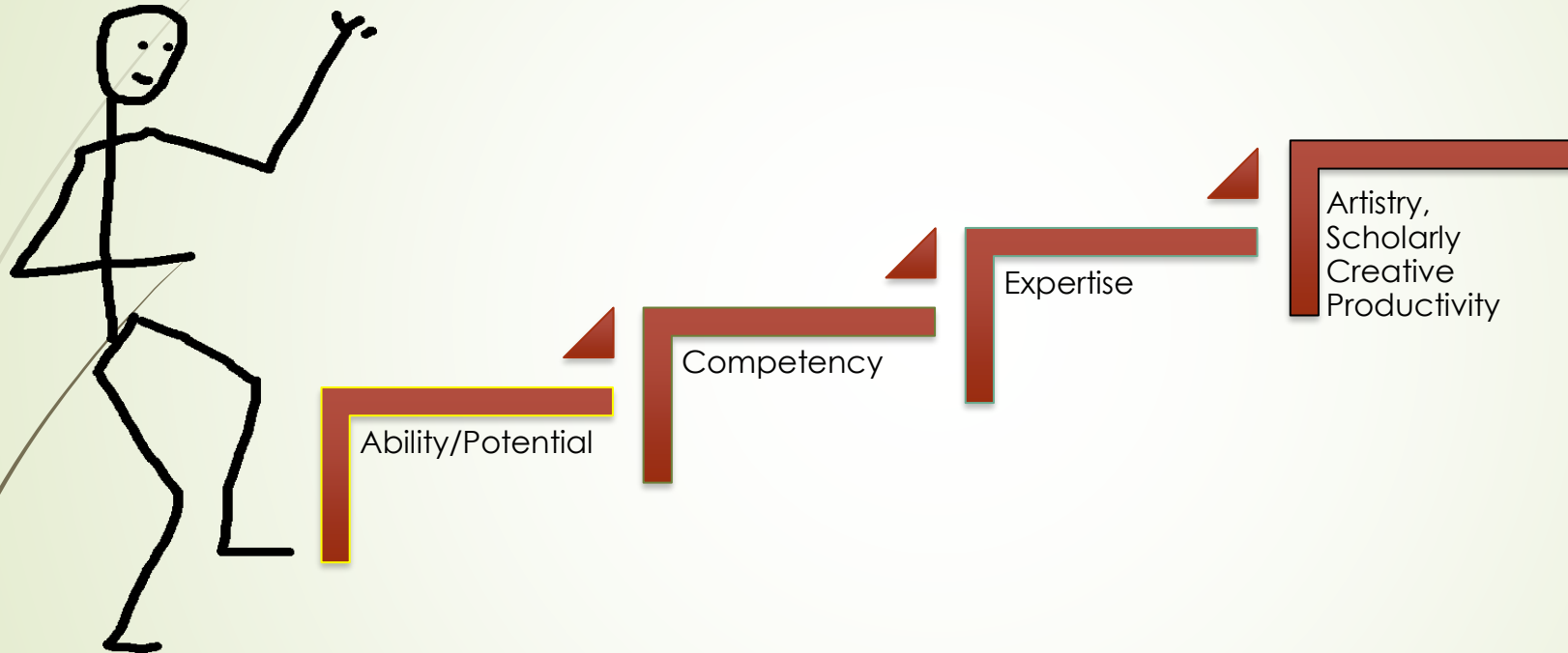
	Childhood	Adolescence			Adulthood		
		Early	Middle	Late	Early	Middle	Late
Music							
Voice 1-Early Specialization	Start Peak	End					
Violin--Early Specialization	Start				Peak		End
Wind Instruments			Start			Peak	End
Voice 2--Later Specialization				Start		Peak	End
Athletics							
Sport 1-Early Specialization	Start			Peak/End			
Sport 2-Later Specialization		Start			Peak/End		
Academic							
Math	Start				Peak		End
Psychology				Start		Peak	End

Voice 1 exemplar is a boy soprano; Voice 2 exemplar is traditional vocal talent development

Early Specialization includes gymnastics, figure skating, diving
 Later Specialization includes team sports, track and field

Principle 4:

talent development is a long-term process



Levers are formal and informal opportunity, commitment to effort, practice, study, and insider knowledge

Inside

Outside

Beyond SCHOOL



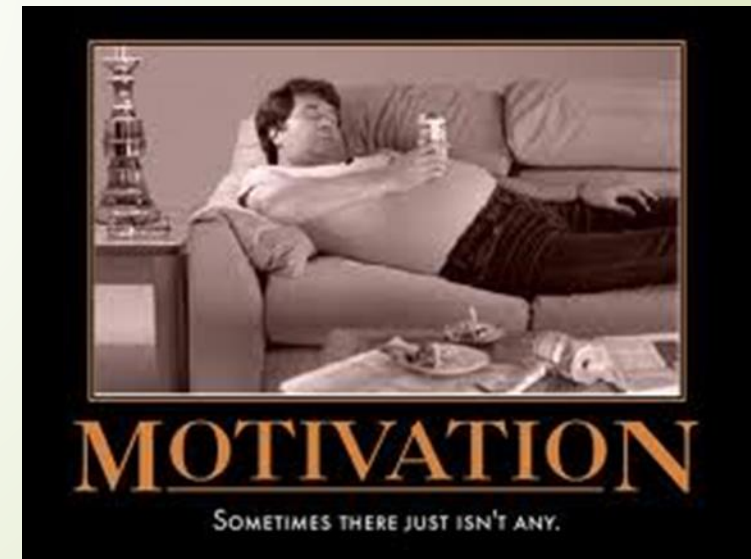
Principal 5: Taking Opportunities


Why don't children or adolescents take talent development opportunities?

- Not interested
- Think parents or friends won't approve of their participation
- Don't want to specialize yet
- Don't have strategies or insider knowledge to meet goals
- Afraid they will fail

Principles 6 and 7: Psychosocial (mental and social) skills and motivation play an outsized role, especially in later stages of talent development

- Not a substitute for talent but are just as important
- Psychosocial skills help to address our fears
- We all start off with different amounts of psychosocial skill, but we can all be taught to improve.





Psychosocial skills of Olympic champions taught developmentally

- *The Ability to Focus*
- *Mental Toughness*
- *Hope/ Goal Setting Ability*
- *Sport Intelligence*
- *Ability to Cope*
- *Competitiveness*
- *Confidence*
- *Coachability*
- *High Drive*
- *Intrinsic Motivation*
- *High Optimism*
- *Adaptive Perfectionism*
- *Automaticity: The Ability to Click Into Automatic Performance*
- *Emotional Control: Ability to Relax and Activate*



Elite athletes and musicians aren't the only ones who can use
PSYCHOLOGICAL STRENGTH TRAINING



Focus on Principle 6: Mental skills

Examples

- Focus in avoiding distractions
- Overcoming performance fears
- Strategic risk taking/dealing with chance factors
- Impulse control and delayed gratification
- Persisting through bad AND good times

Key points **

- Developmental in nature
- Trainable with guidance and practice

Principle 7: Social skills

These are teachable skills and can be modeled

- Acquiring mentors and supporters
- Promoting yourself tastefully
- Being a dependable teammate (prepared, expert, respectful)
- Being a good listener and communicator
- Persuasion – learning what stakeholders want
- Dealing with envy/competition





Not everyone is thrilled when you come up with a new and better idea

- Everyone loves to talk about change and innovation.
- But few environments are ready to promote and support challenges to the status quo.
- That's why it is important to anticipate consequences broadly.
- And to expect and be prepared for pushback.

Principle 8: Promoting equity by sharing insider knowledge



Insider Knowledge

Particular to a career or domain and important in successful solutions.

- Education policy: Teacher influencers are important in gaining acceptance of new policies
Policymakers want answers from academics
- STEM researchers – saying your work is important makes it seem more important
- Psychology – how to get tenure
- Sport prodigies –
- Violin competitions
- Gossip



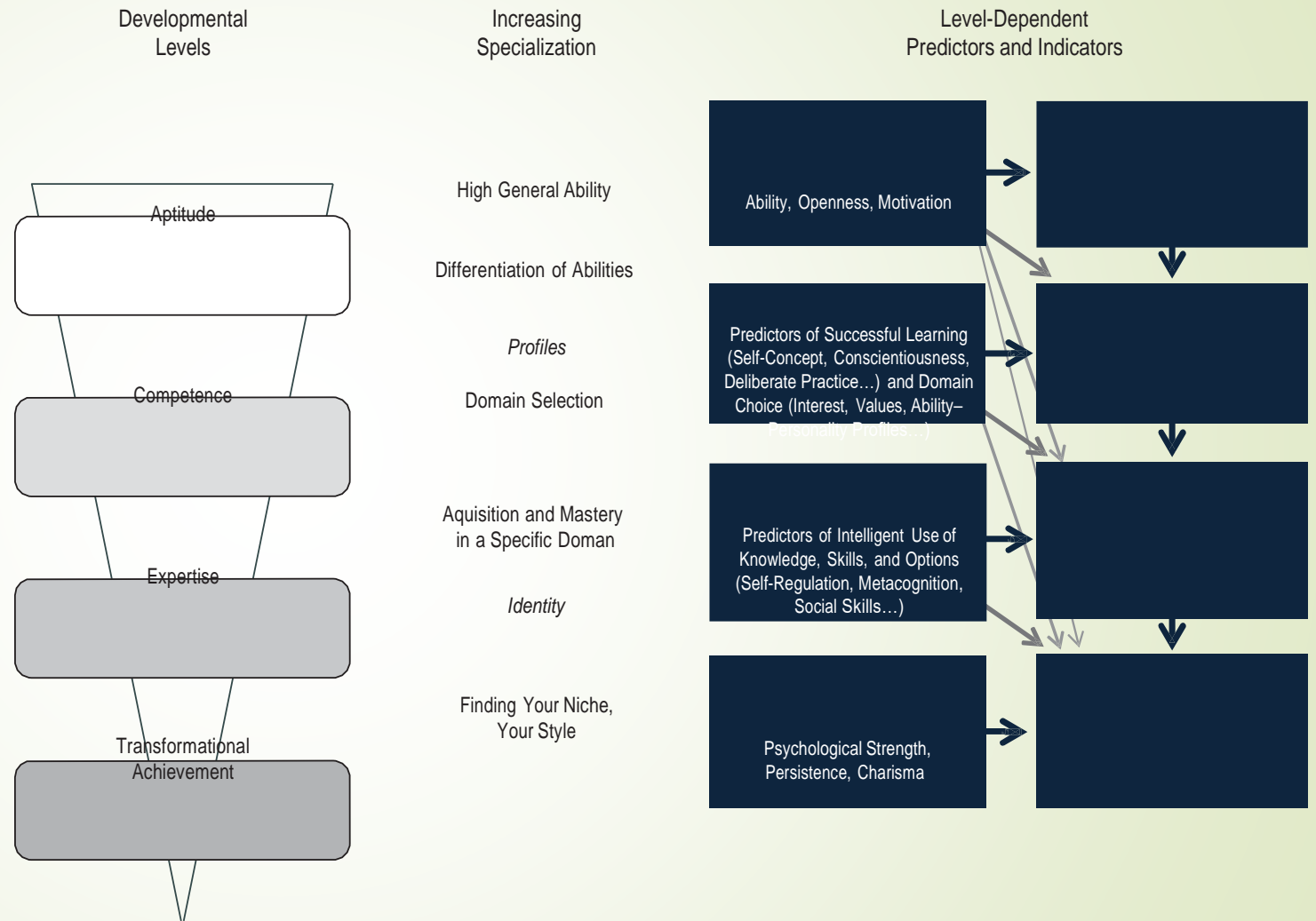


Putting it all together

- ▶ Talent development has potential for meeting more needs of more students with gifts and talents
- ▶ Talent development is an on-going process of opportunities given and taken
- ▶ Talent development aims to help those with abilities in a domain to make a creative contribution.
- ▶ Learn and practice social skills, insider knowledge and mental skills to stay strong and be strategically courageous.

An example of New Advances: A team effort

Based on megamodel as foundation
 Focus on mathematics, visual art, and music



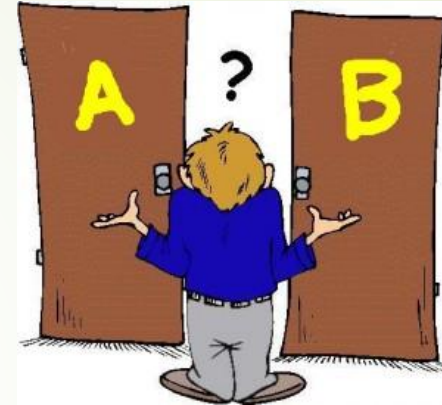
Projects: Gatekeepers

- Who are they?
- How do they become one
- Developmental
- Production vs Performance
- Professions

Great source of insider knowledge



There is so much more to think about!



- Which domains should be served in schools? *Coding?*
- How much attention to classics vs new trends? *Poetry slams*
- How do we assess talent in many areas? *History?*
- Where do we find experts to teach psychosocial skills? *Teachers?*
Counselors?
- How shall we collect and disseminate insider knowledge?