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Working with talented and highly abled students



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Who am I?

- Teacher: Math, Physics, Chemistry, Biology and English
- 4 years at a private school – 12 years at a public school (mainly 11-16 years of age)
- Gifted and highly abled students in Odense – 5 years
- Talent-coordinator at ScienceTalerter
- ScienceTalent Genius at ScienceTalerter

ScienceTalenter

- National center for talented students in Science in Denmark (age: 11 – 21 years)
- Working mainly with students from lower secondary school (age: 11 – 16 years)
- Math-camp
- Rocket-camp/space-camp
- Flying-camp
- Building bridges-camp

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- Molecular gastronomy-camp
- Robotic-camp
- MasterClass Junior (year 7 – 9 – 2 ½ years – 7 camps in total)
- ScienceTalent Genius (year 6/7 – 2-3 years – 6/9 camps in total)

3 types of talents

The High Tech-type
The Curious Generalist
The Career-type











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The High Tech type

- Mostly male students
- "If my iPhone breaks, I will fix it myself"
- Technology = hobby
- Likes different computer games
- Likes competitions
- Would like to turn hobby into a future career
- Future engineers, researchers





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The High Tech type



- Recommendations:
 - Remember the competition factor
 - Make models, design own experiments, crack codes, hack computer systems, invent games

The curious generalist



- Both male and female students
- "If my iPhone breaks, I carefully consider whether I should buy a new one"
- Has a broad knowledge of a lot of things
- Well-oriented in social matters (social studies)



The curious generalist



- Wants to help others
 - Will invent a thing that can save a lot of people or make their everyday life a lot easier
- How can we help the world with our knowledge?
- Help them make the right decision
- Future doctors, engineers, researchers

The Career type



- Mostly female students
- "If my iPhone breaks, I will buy a new one"
- Technology = status
- Knows exactly what she wants to be – and what she has to do to make it come true
 - but can easily change if an other area gives more status or better career opportunities



The Career type

- Wants recognition for work done
- Gets a B⁺ - wants to know how to get an A
- Knows what clothes to wear and which newspapers and books to read
- Important what others think

- Future doctors, researchers, lawyers



Working with gifted and highly abled students

- Hard and challenging work – but also very rewarding
- A small effort can make all the difference in the life of a gifted or highly abled child

- Several ways of doing it
 - One way is not better than the other as long as you do something!!



Inclusive teaching



- The ABC-method of differentiated teaching
 - In the classroom together with the rest of the class
- Accelerated curriculum (single subject)
 - Working with materials ahead of age group but still in the classroom together with the rest of the class

Inclusive teaching



- ABC-method of differentiated teaching
 - Three academic levels – three different ways of working with the same material
- Accelerated curriculum (single subject)
 - Working with materials ahead of age group but still in the classroom together with the rest of the class
 - Math student in year 5 working with math from year 6

Partly exclusionary teaching



- Together with other students of same academically level – taught at another place than the rest of the class(es)
 - Students from same year group but different classes
 - Students from different year groups

Partly exclusionary teaching



- English – year 6
 - 3 classes at year 6 – divide all students into 3 groups
 - Normal level (Apple level)
 - Main focus: vocabulary
 - High level (Banana level)
 - Main focus: learning basic conversations skills
 - Highest level (Pear level)
 - Main focus: being able to hold a conversation for a period of time

Partly exclusionary teaching



- Math – year 4 – 6 (2 classes per. year)
 - Work with the same theme at all levels
 - Fractions
 - Work with different themes at different levels but in the same overall theme
 - Equations
 - Simple equations using centicubes
 - Equations in general
 - Linear equations
 - Quadratic equations etc.

Exclusionary teaching



- Programmes placed physically away from school
 - Private schools
 - After school programmes
 - Programmes in school time, but physically placed at another place than school

Exclusionary teaching



- Private schools only for highly abled children
 - IQ-test in order to enroll at the school
 - Both pros and cons
- After school programmes
 - Odense – 120 minutes every week for 20 weeks
 - Both pros and cons
- ScienceTalent Genius
 - In school time but at a completely other place

After school programme



- 120 minutes every week for 20 weeks every school year
- Two teachers
- Students year 2 – 6 from up to 7 different schools (15-20 students every time)
- 14.00 – 16.00 every Tuesday
- Parents take care of transportation to/from own school to the teaching school

After school programme



- Science, art,
- Role playing games
- Chess,
- Cooking,
- The American presidential election
- Young Scientists competition
- Making nest boxes

ScienceTalent Genius



- 3 year (2014 – 2017) project funded by Egmont Fonden
- 4 target groups:
 - Students
 - Teachers
 - Headmasters
 - Municipals

ScienceTalent Genius



- Students year 6 – 7
 - Check lists (student, parent, teacher)
 - IQ-test (RIAS)
 - Interview
- Team 2014: 50 students from two municipals
 - 3 camps every school year for 3 years
- Team 2015: 40 students from three municipals
 - 3 camps every school year for two years

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- Team 2014
 - Rockets
 - Chemistry
 - Robots and programming
 - Math (trigonometry)

 - Learning Rating Scales – school + Sct
 - Well-Being Rating scales

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- Teachers
 - School year 2014/2015
 - Two 2-day courses
 - Introduction to talented and highly abled children
 - Introduction to ABC-method of differentiated teaching
 - Exchange of experiences with ABC-method
 - School year 2015/2016
 - One 2 day course
 - Strategy for the school on how to provide for the gifted and highly abled children

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- Headmaster
 - One day course every school year
 - Update on latest research
 - Support the teachers
 - Strategy for the school

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- Municipals
 - Strategy for how to provide for the gifted and highly abled students in the municipal

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- Learning Rating Scales - school
 - How do the teaching at the student's school appeal to or fit the student
 - Not looking good
 - The teachers' methods do not appeal to or fit the students
 - The students do not feel good about their own school

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- Learning Rating Scales – ScienceTalent
 - Like the way the teaching are conducted
 - High academic level
 - High pace
 - New methods
 - Peers at the same academic level

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- Well-Being Rating Scales
 - In general all right
 - The students thrive in their families and neighbourhood
 - Do not thrive that well with their class mates

ScienceTalent Genius



- Team 2014 – last camp – write a letter
 - Like being part of ScienceTalent Genius
 - Has learned a lot during the three camps
 - The methods appeal very well to the students
 - Made new friends
 - Found out there are other children just like themselves
 - One student: do not like being part of the project

What can you do?



- Differentiate in the normal classes
- Optional courses – higher academic level
- After school activities
- Start programmes
 - Weekends
 - Holidays





se mere på
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