The Stella project has been funded with support from the European Commission. This PowerPoint reflects only the view of the initiative’s author(s), and neither the Commission nor the Stella partnership can be held responsible for any use which may be made of the information contained therein.
PhysicsCL: Short Notes

Organisation: Albert-Schweitzer-Schule Kassel (General Secondary School)

Target groups: Students aged 10-13: Junior PhysicsCL
Students aged 14-19: PhysicsCL

Contact person: StD Klaus-Peter Haupt
Website: http://www.physikclub.de

Submitted in STELLA Online Catalogue in March 2009

http://www.stella-science.eu/initiatives_view.php?id=691

Chosen as Good Practice Initiative for the STELLA e-Book
Success Story of PhysicsClub (1)

„No student will volunteer for practicing Physics on Friday afternoons....“

(A self-critical supposition in the beginning, 2002)

But it turned out differently...

Number of Participants

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Participants</th>
</tr>
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<tbody>
<tr>
<td>2002-03</td>
<td>20</td>
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<tr>
<td>2003-04</td>
<td>25</td>
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<td>2004-05</td>
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<td>2007-08</td>
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<tr>
<td>2008-09</td>
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</table>

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Success Story of PhysicsClub (2)

- Currently about 180 students from more than 20 schools from Northern Hesse are working on more than 50 projects.
- They are supported by 20 advisors, who mostly are former members (alumni) of the PhysicsCLub.
From PhysicsClub to Student Research Centre of Northern Hesse

Due to limited space, increased requests also from other subjects (Biology, Chemistry) and a higher number of required advisors, the PhysicsClub is going to be expanded.

A new building - the Student Research Centre of Northern Hesse - is being built as department of the University of Kassel on the area of the Albert-Schweitzer-School.

The total area on four floors mounts to more than 1400 m². There will be an observatory on the roof available for all schools in Kassel and the public.
Success Factors of PhysicsClub (1)

1. Innovation in teaching sciences at school
   - High-grade technical equipment
   - Stimulating / motivating learning environment

Simulation of the inside of comets
Generation of a ball-lightning
Success Factors of PhysicsClub (2)

2. Pupils are enabled to pursue academic work independently
   - Pedagogical framework: constructivist learning theory
   - Stimulation of numerous competences
     • professional qualification
     • self-competences
     • social competences
     • methodological competences

Construction of a drive without motor
Soldering of electronic components
(Pictures from Junior PhysicsClub)
Success Factors of PhysicsClub (3)

3. Students work on real up-to-date research projects
   - Subjects: Physics, Astronomy, Biology, Chemistry, IT, Geophysics

Example 1: Construction of a linear accelerator
Success Factors of PhysicsClub (4)

Example 2:

>> Techno-Quappe <<

Development of a silent underwater drive
Success Factors of PhysicsClub (5)

4. Promotion for the participation in research competitions:
   - “Jugend forscht”
   - “Schüler experimentieren”

Example:
The PhysicsClub team on the National Youth Research Competition 2007
Numerous Awards

School Award of The Ministry of Education of the State of Hesse

Klaus-von- Klitzing-Preis

Regional and National Youth Research Competitions

Teacher Award

Georg-Kerschensteiner Award

Nat-Working Award
Robert-Bosch-Foundation
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Dissemination Activities & Media Feedback

- Website with lots of up-to-date information, archive, brochures, pictures and videos
- Articles in Newspapers and Science Magazines
- Reportages on radio and TV
Co-operation / Sponsoring

PhysicsClub co-operates with several scientifical institutions:
• Institute for Physics, University of Kassel
• Didactics of Physics, Universität of Kassel
• Institute for Genetics, Universität of Kassel
• Institute for Mechanical Engineering, University of Kassel
• Didactics of Physics, University of Mainz
• Astronomical-Physical Cabinet, Kassel
• German Aerospace Centre, Cologne
• ...

Financial Support:
In September 2008, the “Sponsoring Society Student Research Centre of Northern Hesse of the University of Kassel” has become a registered association. It serves to provide financial and manned support for the PhysicsClub/Student Research Centre. Furthermore the work is financially supported by several regional sponsors.
Resumée

**PhysicsClub:**
- PhysicsClub has started at regional level, but has had national impact
  - thanks to the inventiveness and commitment of the originator,
  - thanks to the high motivation of students and advisors,
  - thanks to the high standard research work and results,
  - thanks to the awards obtained,
  - thanks to the consequent dissemination of results.

By now, PhysicsClub is the leader of school research in Germany!

**Impact on Students:**
- The attendance of the PhysicsClub has lead to an overall improvement of students’ school performance.
- Up to now, all students, who have attended the PhysicsClub as high school graduates, have subsequently enrolled in a MINT degree programme.
- Some of them still support the PhysicsClub as advisors.
Further Information

http://www.physikclub.de

Thank you for your attention! 😊