



Benefits from “getting closer” — regular high school education alongside doctoral education

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Since 2002 the AWI has been running the cooperation programme HIGHSEA with local schools. Each year 22-24 high school students are admitted. During their last three years of school they spend two days a week at the AWI and not at school. With this programme the AWI aims at providing solid science education not only for undergraduate or graduate students but also for high school students.

For HIGHSEA-students four subjects (biology as a major, chemistry, math and English as accessory subjects) are combined and taught fully integrated. All of the curricular necessities of the four subjects have been rearranged in their temporal sequencing thus enabling a conceptual formulation of 3-4 major questions to be dealt with in the course of the three-year program. Students are taught by teachers of the cooperating schools as well as by scientists of the AWI. Close links and intense cooperation between teachers and scientists are the basis of fundamental changes in teaching and learning climate.

We can clearly show that significantly more HIGHSEA alumni enter university, that HIGHSEA doubles the rate of students entering a science career and that with HIGHSEA alumni drop out rates are drastically reduced.

Closely linking HIGHSEA with the AWI's graduate school POLMAR offers the opportunity for new approaches for both sides: high school students emerge in authentic scientific projects while PhD students gain teaching and supervising experience.

For a period of six month during their second year HIGHSEA-students form smaller working groups (3-4 students). Each of these groups are in contact with one specific researcher, e. g. a PhD-student, at the AWI. The first task of the working group is to formulate a scientific question, albeit a small one in the field of “their” researcher. Within the given time HIGHSEA-students then work on their question and develop a final product to be delivered at the end of the six month. During their working period they are supervised by “their” PhD student.

This setting offers several advantages for both sides. HIGHSEA-students get into close contact with possible role models. They get a first hand impression of what it could be like to work as a scientist. Furthermore they are engaged in authentic research rather than being constricted to text book knowledge. For the PhD-students this setting offers the chance to explore related working fields. As a contribution to career planning they can explore whether or not schools could be a future working field for them. Also they gain experience in supervising. In cases where the cooperation between the PhD- and HIGHSEA-students run really well, HIGHSEA-students can contribute substantially to routine lab-work, to data management or to video-, photo-, or sound-analyses. Both sides – PhD-students as well as HIGHSEA-students — describe this setting as highly motivating and beneficial for their work.