

3. National Research Coordinator's Comments (English)

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General Comments: The lower grades of secondary education consist of three school types: 1. Pre-vocational secondary education (*VMBO*) that prepares students for upper secondary vocational education (for entry to senior general secondary education and the job market). 2. Senior general secondary education (*HAVO*) that prepares students for university professional education. 3. Pre-university education (*VWO*) that prepares students for university and university professional education.

In primary education (through grade six), science is integrated. In the first two years of secondary education (eighth grade is the second year of secondary education), the disciplines physics/chemistry, biology, and geography (geography contains areas of earth science) are taught [separately]. The *Attainment Targets for the Basis Secondary Education* (from August 1, 1998) indicates the direction of the content of [the lower grades of secondary] education and calls attention to general cross-disciplinary targets (1. Cross-disciplinary themes; 2. Learning to do; 3. Learning to learn; 4. Learning to communicate; 5. Learning to reflect upon the learning process; 6. Learning to reflect upon the future). The series of textbooks used in schools, which the teachers base their lessons on for the most part, are based on these attainment targets.

This lesson is taught to a *HAVO/VWO* class.

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The teacher's remark indicates that this lesson is atypical because of the fact that a lot of subject material has to be covered since several lessons were cancelled, and this is the last biology lesson before the central test week.

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The teacher refers to the project that students had to work on independently (see teacher's comments). Independent learning is an important target of [the lower grades of] Dutch secondary education.

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The teacher makes a connection with real-life experiences. Embedding education in a real-life context is an important target of Dutch education.

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The teacher refers to new subject material [Basic Subject Matter Eight] that students have to study independently. The explanation is limited, probably due to the fact that a lot of material has to be covered in this last lesson.

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The teacher refers to new subject material [Basic Subject Matter Nine] that students have to study independently. The explanation is limited, probably due to the fact that a lot of material has to be covered in this last lesson.

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A student remarks that the project took a lot of time: this is a general complaint by Dutch students about the revised education system, where student independent learning is central.