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Biomimicry is a design method that uses knowledge from nature as inspiration for sustainable design. It is an interdisciplinary approach that brings together nature, biology, design and technology. The method has the following setup; first a design problem is identified, then the functions of that design are identified, after which the link is made to how those functions are executed by organisms in nature. Biomimicry has the potential to be used for more than design alone, possibly because of its specific setup.

One of its potentials lies in education. The Nationaal Expertisecentrum Leerplanontwikkeling (SLO) is the most influential Dutch expertise centre for educational innovation. They are constantly working on evaluating and redesigning the educational system. This is very important in the always-changing society. It is interesting to investigate where biomimicry could have an impact on the innovation of the Dutch secondary education. This study aimed to identify the gaps that teachers experience between the current educational situation and the ideal situation, and aimed to investigate how biomimicry could play a role in fulfilling the needs to fill these gaps. The study follows the structure of educational design research. By conducting a needs analysis, which is done by interviewing teachers and experts in nature education, the needs in the educational setting are defined. Then, the relation between these needs and the values of biomimicry are analysed. A set of criteria are set up based on these needs and values, which form the basis of new teaching material about biomimicry. Two courses were developed, 'Marvellous Models' and 'Packaging'. These courses were tested in the onderbouw of high schools, after which an evaluation took place by means of interviewing teachers and conducting student surveys.

This study found that biomimicry has great potential to be implemented in secondary education. The important suggestion is to adhere to new ways of teaching as much as possible. Teachers indicate they want materials that enable student-centred learning, which sparkles students' curiosity, allow active learning, and integrate this in interdisciplinary project-based material that fully cover the most needed 21st century skills. The 21st century skills are defined as soft skills that students need to acquire to be fully prepared for a job in the 21st century. This is exactly where the intrinsic value of biomimicry lies, according to the results of the needs analysis. The results of the evaluations, together with the needs analysis, form this research report, which also acts as an advisory report to BiomimicryNL to aid them in their project BioLearn. The most important recommendations are that biomimicry material needs to:

- o Enable student-centred learning sparkling students' curiosity
- o Integrate active learning in interdisciplinary project-based topics
- o Integrate all 21st century skills

o Biomimicry can also be introduced as ‘bio inspired’ or ‘inspired by nature’

o Reach out to teachers online via websites promoting or offering teaching material.

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