



MEANINGFUL LEARNING IN A LARGE- SCALE SOCIOECONOMICS LECTURE

Evaluating examination methods and learning outcomes of the
socioeconomics lecture Sustainable Economics and Business 1

[Abstract for Momentum 2019 Widerspruch](#)

Magdalena Prieler

MSc. Candidate Socio-Ecological Economics and Policy WU Wien

1. Introduction and context

Within the currently prevailing economic theory of neo-classical economics, mathematical formalism is depicted as the necessary foundation for reliable and precise inquiries. However, next to other shortcomings, mechanistic concepts treat the economy like a closed, isolated system (Georgescu-Roegen, 1979). Contrary, the Department of Socioeconomics at the WU Wien recognizes the embeddedness of economies into society and the biophysical nature and promotes the use of diverse approaches and methodologies to understand and describe the complexity of social, economic and ecological issues. Within the course Sustainable Economics and Business 1 (Zukunftsfähiges Wirtschaften 1) it aims at enabling bachelor students to gain a better understanding of the entanglement of issues like climate change, globalization and inequality with economics. Bearing in mind the complexity of those topics, it is crucial for the course to support the students' understanding of interrelations and their skills to critically evaluate, the focus on which is missing in many standard economics lectures. As Sustainable Economics and Business 1 is the by far biggest socioeconomics lecture within the Austrian Higher Education field, reaching more than 1 500 students a year, improving the course is of mayor importance for the future of progressive economics in Austria.

Since winter semester 2018/19, Sustainable Economics and Business 1 is offered as a lecture with obligatory attendance and an inverted classroom concept. This didactic innovation has great potential to support meaningful learning, however, in order to fully use it, well thought-through didactics are required that simultaneously meet the highest standards and are practicable with the group size of up to 650 students. The newly designed course intends to provide the advantages of different forms of learning outside and within the course units. Multiple ways of testing the students' learning (written home works, in class exercises, quizzes and multiple-choice exams) are applied: Written home works aim at training analyzing, arguing and academic writing skills. In class exercises give a chance to put theories into practice, create a connection between the topics and oneself, read and interpret data and graphs and train analyzing and arguing skills. Quizzes are used to make sure that students go through and understand the preparation material. Additionally, the multiple-choice exam at the end serves as a more objective measurement, testing the factual knowledge of the course. The methods of examination greatly shape what, how and how much students learn and understand. This makes the "right" way of examination crucial for meaningful learning. Therefore, the aim of this action research project is in a first step to evaluate the examination methods applied. In a second step, the students' learning outcomes ought to be evaluated both quantitatively and qualitatively. The outcomes of both parts are used to formulate strategies to further promote meaningful learning within the course. This systematic evaluation serves as a basis for improving the teaching design of the lecture, enabling students to learn in various forms and in the end to ensure high quality socioeconomic education within the WU bachelor programs.

2. Literature review

The course evaluation is based on Ausubels' concept of meaningful learning. According to Ausubel (1963), the learner's cognitive structure is the most important factor in learning. In order to enable meaningful learning, teaching must aim at improving the learner's existing cognitive structure. This gives the students the chance to link new content to existing knowledge and create new mental connections. Contrary, if teaching doesn't consider the students' prior knowledge and students are unable to understand context and connections, they are likely to stubbornly learn content by heart (Ausubel and Robinson 1969). Meaningful learning enables higher order thinking. Ivie (1998) describes three criteria for higher-order thinking processes: the use of abstract structures, the integration of information into an existing system, and the application of sound rules of logic and evaluation. In order to evaluate the extent to which higher-order thinking processes are taught and learned the Anderson

Krathwohl taxonomy (Anderson et al., 2001) is used. The Anderson Krathwohl taxonomy builds on the taxonomy originally published in 1956 by Benjamin Bloom (Bloom et al. 1956), but focuses more on the activities of learners (Baumgartner 2011). Putting the learner at the center of the educational process, follows Ausubel's view that a meaningful relationship should be established between the learner's cognitive structures and the learning material. The taxonomy is structured in a two-dimensional table. The X-axis represents the six cognitive process dimensions in a structure from simple to complex dimensions (remember, understand, apply, analyze, evaluate, create). The Y-axis lists the dimensions of the types of knowledge (factual knowledge, conceptual knowledge, procedural knowledge, metacognitive knowledge). A systematic representation is established by categorizing examination methods on both axis of the table. This gives an overview of the learning potential the lecture offers and helps to understand to what extent higher-order thinking processes can be enabled (Anderson et al. 2001).

3. Research design

The research project uses a systematic representation to evaluate the assessment methods and learning outcomes of the course Sustainable Economics and Business 1 by applying the Anderson Krathwohl taxonomy. Thereby, all examination methods (home works, quizzes, in class exercises and multiple-choice exams) and the students' learning outcome will be categorized into the six cognitive process dimensions (remember, understand, apply, analyze, evaluate, create) and the knowledge dimensions (factual knowledge, conceptual knowledge, procedural knowledge, metacognitive knowledge). The aim is to find out which types of knowledge and especially which cognitive process dimensions are currently targeted through the modes of assessment and the questions or tasks used. In a second step, the students' learning outcomes visible through their results in different exercises are evaluated. The aim hereby is to determine which stages of the cognitive process dimensions are actually reached by the students. Building on this, two focus groups with former course participants will be conducted in order to achieve a more holistic understanding of the learning success. On the basis of this evaluation, recommendations concerning adequate dimensions of the cognitive processes will be formulated in order to support meaningful learning. The result of this self-evaluation can also provide recommendations for other socioeconomics courses, as well as for large-scale university courses in general.

4. References

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