

Shaping education for sustainable development cooperatively

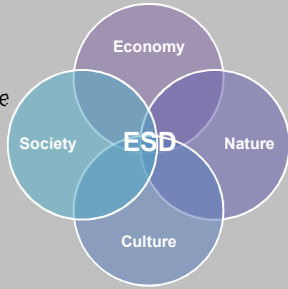
Topic

Development & evaluation of a virtual cooperative university seminar on Education for Sustainable Development for student teachers.
Investigation of the influence of the participant composition (disciplinary versus interdisciplinary) on the effectiveness of the seminar event.

Initial situation, objectives & framework conditions

Education for Sustainable Development (ESD) describes an education, that enables people to think & act in the sense of sustainable development. (Stoltenberg, 2017, S. 1.)

ESD is not a new subject, but should be treated as a **cross-cutting theme** from all subjects. (Schreiber/Siege 2017)



ESD is an education policy programme of UN & UNESCO

- UNESCO World Programme & Agenda 2030
 - UN Sustainable Development Goals (SDGs)
 - In Germany: National Action Plan on ESD
- Goal: Structural anchoring of ESD at all levels of education. (UNESCO 2014)

Teachers are seen as multipliers for ESD

- Demand: Integration of ESD in teacher training & further education (UNESCO 2014)

Theoretical background

The **integration of complex sustainability topics in the classroom**, such as climate change, consumer behaviour or energy supply, requires a multi-perspective & systemic view that looks beyond the subject itself.. (Haan, 2008)

ESD competence models for teacher education assign central importance to teacher cooperation in the implementation of complex sustainability topics in the classroom. (Rauch et al, 2008; Stoltenberg et al., 2014)

Discrepancy: Teachers support collegial cooperation in principle, but intensive cooperation hardly ever takes place in practice. (Richter/Pant 2016)

Arguments for collegial cooperation in ESD:

- Complexity of ESD topics transcends subject boundaries
- Synergy effects & deeper subject understanding through multi-perspectivity
- Increased quality & reduced workload through bundling of competences (Rieß 2013; Steiner 2011)

Conditions for successful cooperation:

- Common goals & tasks
- Autonomy
- Trust
- Communication
- Norm of reciprocity
- Space & Time (Ahlgrimm et al. 2012; Ahldorf 2015)

Interest & research questions

Descriptive level: Comparison of the qualities of a disciplinary & an interdisciplinary cooperation of student teachers in a virtual university seminar to promote competences for the implementation of ESD in later subject teaching.

Interpretive level: Attempt at an approximation: The influence of the subject composition of the group of students on their competence to evaluate ESD lesson plans in terms of their suitability for the implementation of ESD.

RQ1: What acceptance do the students express with regard to...

- ...the preparation of ESD in the seminar?
- ...the personal significance of ESD?
- ...the importance of ESD for the classroom?
- ...the importance of cooperative lesson planning in ESD?

RQ1 pursues a **scientific evaluation**.



RQ2: What influence does the composition of the students' disciplinary (group A: physics students) & interdisciplinary (group B: student teachers of different subjects) subjects have on their assessment of whether a given lesson plan is suitable for implementing ESD?

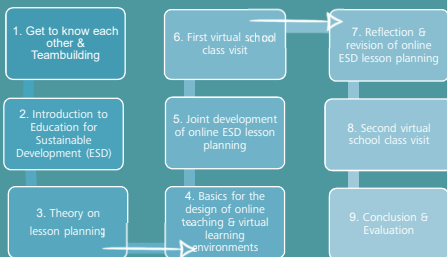
RQ2 pursues a research concern with the aim of **generating hypotheses** based on an example.

Aim: To generate hypotheses for effective ESD seminar formats to integrate ESD in teacher education.

Study design

- **Qualitative comparison group design** with two levels: Measuring change at the individual level & finding differences at the group level.
- **Variation in the groups:** Group A: Physics students & Group B: Teacher trainees from different subjects.
- **Group size:** 5-10 students per group
- **Implementation:** 2020: Group A & 2021: Group B
- **Seminar content:** Cooperative planning, implementation & reflection of an online ESD lesson on the topic "Online shopping & its impact on climate change".

Seminar schedule:



Survey instruments:



- **Fragebogen** vor & nach Seminararteilnahme → Erfassen von Informationen zu Erfahrungen & Einstellungen zu BNE & Kooperation
- **Bewertung** einer vorgegebenen BNE-Unterrichtsplanung vor & nach Seminararteilnahme → Erfassen von vorhandenen Kognitionen der Studierenden bzgl. BNE-Unterrichtsplanung
- **Qualitative Leitfadenterviews** nach Seminararteilnahme → Erfassen der Akzeptanz des Seminars & der Wahrnehmung des Kooperationsprozesses & subjektiver Theorien zu BNE & Kooperation

Type of data collected:

Implementation of virtual cooperation:

- Course sessions via video conferencing (zoom)
- Lesson development with an online collaborative whiteboard (miro)

Evaluation method:

- Qualitative content analysis (QI)
- Form of QI: Content-structuring & Category type: Thematic categories.
- Category Formation: A-priori categories, from the work assignment to evaluate the lesson planning & the interview guide; supplemented by category formation on the material. (Kuckartz 2018)

Literature: Ahlgrimm, F./ Krey, J. et al.: Kooperation – was ist das? Implikationen unterschiedlicher Begriffsverständnisse. In: Huber, Ahlgrimm (Hg.), Kooperation. Münster 2012. S. 17-30 // Aldorf, A.: Lehrkooperation und die Effektivität von Lehrerfortbildung. Freiburg 2015. // Haan, G./Bormann, I.: Kompetenzen der Bildung für nachhaltige Entwicklung. Operationalisierung, Messung, Rahmenbedingungen, Befunde. Wiesbaden 2008. // Kukartz, U.: Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung. Weinheim, Basel 2018. // Rauch et al.: Kompetenzen für Bildung für nachhaltige Entwicklung (KOM-BINE). Konzepte und Anregungen für die Praxis. Wien 2008 // Richter, D./Pant, H. A.: Lehrkooperation in Deutschland. Eine Studie zu kooperativen Arbeitsbeziehungen bei Lehrkräften der Sekundarstufe I. Wien 2016. // Rieß, W.: Bildung für nachhaltige Entwicklung (BNE) und Förderung des systemischen Denkens. AnliegenNatur (35). 2013. S. 55-64 // Schreiber, J.: Orientierungsrahmen für den Lernbereich Globale Entwicklung. Kurzfassung Bonn 2017. // Steiner, R.: Kompetenzorientierte Lehrerbildung für Bildung für nachhaltige Entwicklung. Kompetenzmodell, Fallstudien und Empfehlungen. Münster 2011. // Stoltenberg, Ute, Holz, Verena: LENA - Lehrerbildung für eine nachhaltige Entwicklung: Stand und Entwicklungsperspektiven. Lüneburg 2017. // Stoltenberg, Ute et al.: Forschung zur Lehrerbildung für eine nachhaltige Entwicklung. Ein Positionspapier zur Ausgestaltung von Forschungsprogrammen in Deutschland, Österreich und der Schweiz. Hg. v. LeNa - Deutschsprachigen Netzwerk LeNa - Lehrerbildung für eine nachhaltige Entwicklung. Lüneburg 2014. // UNESCO: UNESCO-Roadmap zur Umsetzung des Weltaktionsprogramms "Bildung für nachhaltige Entwicklung". Bonn: Df. UNESCO-Kommission. Bonn 2014.

Contact

Dominique Holland
Dominique.Holland@ur.de
Karsten Rincke
Karsten.Rincke@ur.de