UNIKASSEL VERSITÄT | ORGANIC AGRICULTURAL SCIENCES

Guide for Student Project Work

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Based on "Guidelines for Project Work", FB 11 - Organic Agricultural Sciences, University of Kassel, 1997; initiated by the AGES steering board

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Content

1. Introduction

Project studies promote motivation, personal responsibility, key qualifications, relation to professional practice, and interdisciplinarity.

This guide is intended to provide students and lecturers with suggestions and assistance for the preparation and supervision of project work, especially within the English Master programs at the Faculty Organic Agricultural Sciences, University of Kassel (Faculty 11). It is intended to create the basis for a common understanding of student project work.

The purpose of student project work, differences between student project work and other forms of teaching and learning, methodological aspects and questions of practical implementation are presented.

The guide is based on experiences and considerations at the Faculty 11.

2. Student project work as an 'alternative' form of teaching and learning

2.1 What is a student project work?

Student project work is fundamentally different from seminars, classes or lectures. In seminars, students complete the material given by the seminar instructor in individual work, following the logic of a specific subject matter. At the end, the students have expanded their knowledge (checked by the seminar instructor), but also new questions arise: the subject matter remains unfinished.

A seminar is - related to a specific topic - knowledge oriented

The word project derives from the Latin term "proicere" = "to throw ahead". This expresses that a project begins with its end, namely with the determination and formulation of the desired result. The project has succeeded when what was planned is "on the table": e.g., a device, a publication, an exhibition, the solution to a case study - that is, a "working" product.

A practical problem is formulated at the beginning of a project work. A lot of questions arise from this problem. In this case, students expand their knowledge and skills by using their existing knowledge to solve an actual or simulated problem. The result of a project is a "working" product that often goes beyond a mere written report (ascertainable by the students themselves).

Student project work is:
- problem related
- application-oriented

The process of project work looks as follows:

1. definition of the product
2. determination of the closing date
3. determination of the means
4. preparation of a plan
5. realization of the plan in alternation of individual and plenary work
6. working product (functioning determinable by the students themselves).
7. publication of the results

This process corresponds to the workflow in professional practice, as opposed to a course where only rework is done.

2.2 Characteristics of student project work

Student project work is characterized by the following features:

- Group work - is the rule for student project work: ideal group sizes are 4-10 persons.

- Self-organization - can be realized to varying degrees: from projects in which the supervisor specifies the topic and coordinates the process, to projects in which the work is predominantly based on the students' own motivation and organization.

Student project work is special in that students take the responsibility to plan and steer the process, but are nevertheless bound to specifications of the supervisors and are finally graded by them.

- Division of labor - here, too, gradations are possible. A group works out all the answers together, or the project group distributes the work among individuals or small groups, who regularly inform each other in plenary sessions about the status of the process. Division of labor requires a high degree of communication.

- Interdisciplinarity - Collaboration by scholars of different disciplines has been found to be a paramount to address the many complex challenges of the 21st century, especially in the realm of sustainability transitions.[1] For that reason, it is desirable that students with different experiences work together and that an issue is considered from the perspective of different disciplines (social science, natural science). Interdisciplinary collaboration requires the willingness of

[1] Mauser et al.: Transdisciplinary global change research: the co-creation of knowledge for sustainability.

individuals to think and collaborate in an area in which they are not an expert.

- Transdisciplinarity - depending on the research question, it may be useful to involve non-academic, external, partners from business, public institutions or civil society. Ideally, these stakeholders are meaningfully involved throughout the entire process of project work (see above). Note that there are likely differences between academic and non-academic actors regarding their goals and ways of thinking. For that reason and especially if involvement in the first steps of project work is not feasible, good communication between researchers and partners is essential. The project output is useful to solve a real-world problem of the partners while at the same time addressing overarching (academic) questions. [2]

- Practical relevance - a problem is taken up that is relevant in everyday working life or is of importance to society. It is crucial that only those questions are raised that can also be answered within the framework of the project.

- Creative methods – Creativity can meaningfully contribute to academic work, even though it is often associated with the realm outside academia. Besides reports, research outputs may display [1] creative artefacts from the research side s.a. websites; [2] researcher-produced creative representations of the research subject s.a. drawings, sketches, role-plays or photographs; or [3] researcher-facilitated creative productions co-produced with the research subjects s.a. maps produced during community focus groups.[3] While each of these categories of creative research is different, they all

[2] Lang et al.: Transdisciplinary research in sustainability science: practice, principles, and challenges.
[3] Brooks et al.: Using Creative Methods to Research across Difference. An Introduction to the Special Issue.

broadly contribute to science communicability, ownership among non-academic partners, and the originality of the output.

2.3 Possibilities and limits of student project work

The student project work is a problem-based, practice-oriented scientific work. As a preliminary stage to the final thesis, it can be used to try out and learn scientific working methods, e.g.

- Identify important and solvable research questions and / or practical problems
- Collect and evaluate information
- Use publications and other tools effectively
- Summarize and present results.

Group work requires and promotes social skills such as teamwork, flexibility, openness, responsiveness, assertiveness, learning ability, problem solving, scientific rigour and debate and creativity. To name examples:

- The resilience of the project members may be severely strained shortly before the completion of the project work. In a tense phase, individuals understand their limits as they have to meet deadlines and agreements or deal with unexpected problems without passing on the pressure to fellow students.
- The alternation between individual work and group work increases the motivation of the participants, because the effort of the individual is of importance for the whole project and for the group. As a result, the incentive to overcome difficulties is higher than when studying for exams.

- When theoretical and methodological knowledge is applied practically, learning becomes more effective and lasting.
- The nature of project objectives often necessitates interdisciplinary work: the consideration of a practical problem from the perspective of different subjects opens up an understanding of the possibilities and limitations of the specialist disciplines.

Limits of project work:

- Working on a project is similar to the problem-solving process in professional and scientific practice. The participants not only learn about the difficulties that can arise when working together in a group. They also discover their own knowledge gaps. If they then revisit the relevant basics, e.g. of statistics, business administration or a theory, this basic knowledge can be understood more deeply than when studying in lectures and for exams. Without such in-depth self-study, however, project work might impart the formation of new, specialist knowledge.

- In addition, not all students are motivated to spend an appropriate amount of time on project work simply because the principles and results of project study are so exciting.

3. General conditions of the student project work at the Faculty 11

3.1 Formal conditions, time frame and supervision

Each project group is supervised by two supervisors: https://www.uni-kassel.de/fb11agrar/en/studies-1/im-studium/examinations/supervisors

The first supervision is carried out by a lecturer or a research assistant with examination authorization in the specific Master program from the University of Kassel (Master AGES), from Universities of Kassel or Goettingen (Master SIA), from the Universities of Kassel or Fulda (Master IFBC). The second supervision can also be carried out by a scientific employee from the research area (third-party funding) of the respective universities.

In the case of the Master IFBC, where project work is developed in cooperation with non-academic actors such as companies, second supervisors can also come from these institutions.

At the beginning of the semester, the student teams meet with the supervisors on a weekly basis, and in the further course of the semester on a bi-weekly basis, in order to structure their work, discuss intermediate statuses, and receive advice. Between the meetings, individual exchange and advice by e-mail can be useful.

Master "Agriculture, Environment, Societies" (AGES)

Currently, two projects are scheduled in the Master AGES. Project work takes a minimum of one semester - starting winter semester - and new projects will start in summer semester. In summer term a project that started in summer term may offer students the option to continue. Each project has 6 credits, with 360 hours, of which 60 are contact hours.

The intention is that one supervisor with a social science background and one with a natural science background will supervise the project work together.

Master "Sustainable International Agriculture" (SIA)

In the Master SIA, a free – individual - student project can replace a 6 credits elective module (duration: 1 semester).

Students agree on a topic with the supervisor. The aim of the free project is to scientifically deepen a topic. This may also include experimental work depending on the task. The result of the project work to be delivered is a written result report (around 15 pages resp. 4000 words) and/or a presentation. Applies only for the Master SIA!

Master "International Food Business and Consumer Studies" (IFBC)

In the Master IFBC, an applied research project, in cooperation with external partners is a core part of the program. Starting in the summer semester each year it runs for two semesters and is awarded with 18 credits. Seminars on intercultural communication and project management are included in this applied research project. The project is completed with a Portfolio exam (written report, presentation and poster).

3.2 Grading

In principle, group work will be promoted but additionally, due to the general regulations for examinations, students need to be assessed in a differentiated manner by their supervisors. Recommended is, that there will be group criteria (for example assessing the group work process or parts, which could be done only together), approx. 80% of the final grade and individual assessment criteria with approx. 20% of the final grade.

Master AGES and IFBC: The project report is included in the group evaluation with 70%, the project presentation with 30%.

Each person must be able to receive a differentiated grade. Nevertheless, in the case that the individual performances do

not differ from each other, the overall grade may be the same for all group members.

The written report must indicate who wrote which chapter. Individual chapters can then be assessed separately.

4. Tips and tricks for students and supervisors

4.1 Frequently asked questions about project work

In the course of the student project work, it may be useful to address the following questions in the group, with the supervising persons

- What problem or research question should be worked on?
- What are the first steps (planning phase)?
- How can the project topic be completed within the given time (create a schedule)?
- Which methods should be employed (procedure)?
- How and from where do you get your data?
- What are the expected costs and where can a grant be applied for, if necessary?
- What if the project fails?
- What format should the project output take?
- How and in what stages of the project work should the partners be involved?
- If there is cooperation with third, external, partners, how can their concrete problem be related to larger (academic) questions? See example by Prof. Padmanabhan, Indonesia: https://youtu.be/6MpDo93UuPo
- How should the results be presented?
- What should the project report look like?

- Is there project work available that could provide guidance?

4.2 Group work

First of all, a group has to be found that wants to work on a question or a problem. The motivation to participate in a project group can be very different depending on whether only the duty of the project form calls, or friends persuade one, or whether the enthusiasm for the topic is decisive. When a group gets together, it should first get a rough overview of the topic and then talk about the content and social needs of the individual members:

- What do I want to bring to the group? What do I expect from the others?
- What time frame do we set for the project, what time commitment can I contribute?
- What interest do I have in the subject matter, what knowledge, what previous experience do I bring with me?
- What is my experience with group work?
- When is there time to talk about the social experiences made during the project work and the group process?
- How do decision-making processes work, who takes the minutes and who facilitates the discussion?
- How can we ensure that everyone can participate and contribute equally?
- An internationally composed group with different socio-cultural backgrounds is very enriching and has enormous potential, but can also be particularly challenging. There might be other challenges like language barriers or prejudices. Allow time and space to grow together as a group.

Clarifying these issues can improve group cohesion.

How large a group should be, depends on the scope of the topic. If a group is too large, this can also hinder cooperation.

In any case, the success of the group work depends on the commitment of the individuals.

Through the Foundation Innovation in University Teaching, the project "Social-ecological transformations in the agricultural sector: transdisciplinary didactics and methods" ("Agrartransˆ2") provides support for the study with a framework program for the project module, specific sessions will be offered for the following topics: Intercultural communication, introduction into project management, alternative forms of publishing results, presentation skills.

4.3 Time schedule

- Create a schedule that divides the work into time-bound sections (see figure 1)
- Take into account busy periods, e.g. exam blocks. What happens in the lecture-free period?
- When should the documentation, the written project report, be started?
- Who can spend approximately how many hours on the project work and when?
- Present your schedule to the supervisors: They have more experience regarding the time required for the individual steps.

	Week 1	Week 2	Week 3	Week 4	Continued
Task 1: ... Responsible	X Name/s				
Task 2: ... Responsible		X Name/s	X Name/s		
Task 3: ... Responsible				X Name/s	
Task 4: ... Responsible				X Name/s	
Continued					

Figure 1: Timetable sheet

4.4 Supervision

What do you expect from the supervisor? Do your expectations coincide with those of the supervisor? Should the supervisor predominantly

- coordinate
- set milestones
- give feedback
- give professional advice
- offer support in crises
- or ...?

Responsibilities of a supervisor are:

- Provide sources and points of contact
- Warn if the project or parts of the project become too challenging: Assess feasibility
- Reflect on what students have done: evaluate, assess and especially in the start-up phase - encourage them

- Enforce adherence to timing and formal work objectives.

4.5 Organization

Determine together how you will communicate amongst yourself and how you will record your intermediate results:

- Common mail distribution list
- Telegram group (or other group tool)
- Hesse box for files

Choose as simple ways as possible - don't make it too complicated for yourself!

4.6 Practical considerations

- What tools do you need?

- Do you need technical support?

4.7 Presentation

In the AGES- and IFBC-program, at the end of the semester the final group presentations will take place in front of an interested, interdisciplinary audience of lecturers and students. The presentation lasts for about 25 minutes followed by a discussion of about 20 minutes.

The presentation and the discussion must be well prepared.

Consider if the format of a power point presentation or a more creative method serves best your goal of communicating your results. Role plays, lecture formats, rich-pictures and quizzes are just some examples that you can draw from (see “Creative methods” above).

Distribute the presentation parts among the group members. Clearly define who will present what (keep to the schedule).

4.8 Project report

The time required for the written report is often underestimated. Schedule it well in advance, including enough time for layout, formatting, and correct source citations.

Regarding structure, outline, literature, and citation style, please refer to the 'Guideline to scientific assignments', Link to the 'Guideline to scientific assignments ': https://www.uni-kassel.de/fb11agrar/index.php?eID=dumpFile&t=f&f=605&token=59a77316ca8c64706c6c687ca84ce3950c348da0

The expected length of the project report is approximately 10,000 words.

For specific questions, it is best to contact your supervisor.

4.9 Help, conflicts!

If you notice within the first six weeks that you are not making progress or that conflicts are brewing, urgently seek contact with your supervisors. If necessary, you can also contact the study program coordination.

We recommend each group to take a coaching within the first four weeks of the project start. Coaching at the Faculty is offered by Dr. Brigitte Bartsch (b.bartsch@uni-kassel.de) and last around 3-4 hours. Costs are covered by the Faculty.

4.10 Financing

Project work can be expensive. If the financial effort due to long journeys, expensive tests, elaborate exhibitions or similar becomes too big for your student wallet, you can apply for financial support for the project work:

- First, ask your supervisor for advice. Perhaps their area of expertise can provide support when the project is part of an official research project.
- Application for "Funds to improve the quality of study conditions and teaching" (QSL funds): QSL funds for project work can be applied for at the study committee. The application deadlines are 01.10., 15.01., 01.04., 15.06. A maximum of 400,- Euro per student and study program can be applied for.

  Link to QSL project funding application: https://www.uni-kassel.de/fb11agrar/index.php?eID=dumpFile&t=f&f=608&token=a2eeadcd6ff57bc24f52ca0d1254920029c916ec
- Funds from the accompanying program "Agrartrans²" are available 2023-2025 and can be applied for by the supervisors.

5. Sources and links

Project funding application

Link to QSL project funding application: https://www.uni-kassel.de/fb11agrar/index.php?eID=dumpFile&t=f&f=608&token=a2eeadcd6ff57bc24f52ca0d1254920029c916ec

Preparing the project work report

Link to the 'Guideline to scientific assignments' (University of Kassel): https://www.uni-kassel.de/fb11agrar/index.php?eID=dumpFile&t=f&f=605&token=59a77316ca8c64706c6c687ca84ce3950c348da0

Project management tools

https://www.projectlibre.com/product/1-alternative-microsoft-project-open-source

Task management - Project management tool, free versions available: https://trello.com/en/guide

Time scheduling - Gantt chart tool, free versions available, German server: https://www.agantty.com/en/

Inter- and Transdisciplinarity

Brooks et al. (2020): Using creative methods to research across difference. An introduction to the special issue, International Journal of Social Research Methodology, 23:1, 1-6. https://doi.org/10.1080/13645579.2019.1672281

Jacobi et al. (2022): Transdisciplinary co-creation increases the utilization of knowledge from sustainable development research. Environmental Science and Policy 129 (2022) 107–115.

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Menken, Keestra (2016): An introduction to interdisciplinary research – theory and practice. Amsterdam University Press.

Scholz (2020): Transdisciplinarity: science for and with society in light of the university's roles and functions. Sustainability Science (2020) 15:1033–1049, https://doi.org/10.1007/s11625-020-00794-x

Siart et al. (2014): Development of Agricultural Innovations in Organic Agriculture to adapt to Climate Change – Results from a Transdisciplinary R&D Project in Northeastern Germany, Leibniz Centre for Agricultural Landscape Research (ZALF,) Institute of Socio Economics and Institute of Land Use Systems.

Szostak (2012): The interdisciplinary research process. In: Case Studies in Interdisciplinary Research, pages 3-19. SAGE Publications.

Creative research examples: https://www.methodspace.com/blog/emerging-methods

GERMAN

Bremer (o.J.): Handout Präsentation, Moderation und hochschuldidaktische Methoden. Kompetenzzentrum für Neue Medien in der Lehre - Goethe-Universität Frankfurt. https://www.bremer.cx/material/Bremer_Methoden.pdf

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Technische Universität Dresden (2018): Lern-/Schreibgruppen: https://tu-dresden.de/studium/im-studium/ressourcen/dateien/zentrale-studienberatung/infothek/starterkit-lern-schreibgruppen?lang=de

Technische Universität Dresden (2020): Leitfaden Projektseminar. Seite 9-62: Projektmanagement in Gruppen und erfolgreiche Projekte. https://tu-dresden.de/bu/umwelt/geo/geographie/humangeo/studium/leitfaden-projektseminar