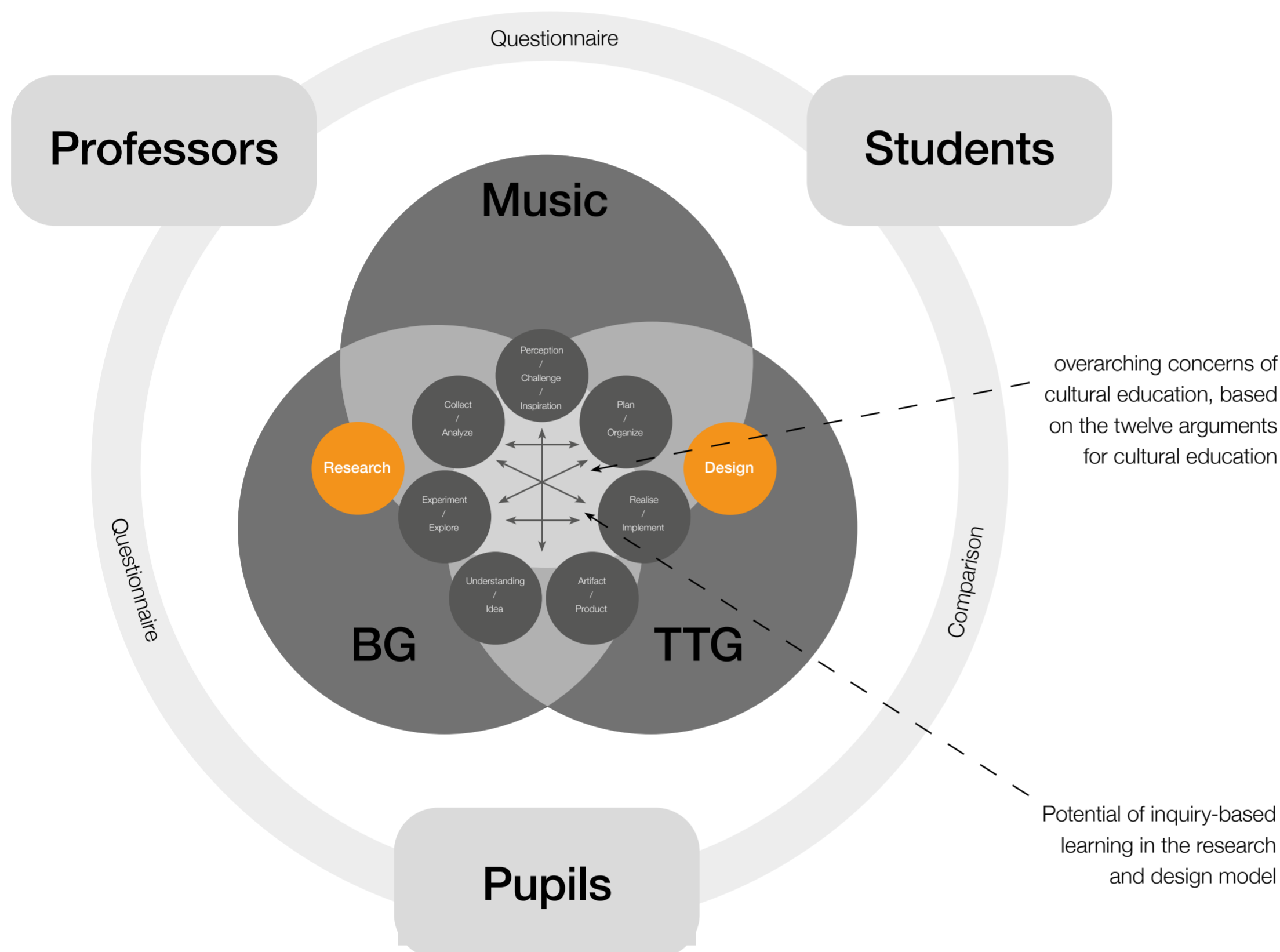


# Inquiry-based learning in design processes

## Subject

Design processes are central elements in the subjects of music, BG and TTG. If design is regarded as a possible form of research (Mieg, 2020), design processes can also be perceived as research processes (Reinmann, 2020). In turn, inquiry-based learning (FL) is seen as a means of acquiring skills that are difficult or impossible to teach directly, in contrast to factual knowledge, for example (Lehmann & Mieg, 2018). In the context of the increasing importance of the educational concerns of cultural education, the question arises as to what extent inquiry-based learning in design processes can serve to support the promotion of these educational concerns. In this endeavor, the subject didactics of Music, Art (BG) and Design & Technology (TTG) are networking: The FL is being investigated at different levels and in different constellations. The project „Formats of engagement with FL“ (FormAsFL), in which the PHSG, PHZH and the Lernforum Rapperswil-Jona are involved, is presented here as an example.



## Theses

- Results from children's research-based learning processes prove to be stimulating material that can raise and answer didactically relevant questions.
- Dealing with FL in the design process at the target level is suitable for a critical reflection of one's own understanding of teaching and learning.
- The artistic subjects offer and have different approaches and concerns, with cultural education representing an intersection.

## References

### Arguments for cultural education according to bkj.de

- Recognize and develop your own strengths
- Pursue your own interests
- Be involved and be self-effective
- Go your own way, including detours
- Change perspectives
- Be able to use cultural forms of expression
- Develop your own identity
- Take responsibility and experience togetherness
- Experience diversity as normality
- Experience art and culture
- Understand the world
- Change the world

### Model „Research and Design“ (University of Leipzig)

- Perception / Challenge / Inspiration
- Collect / Analyze
- Plan / Organize
- Experiment / Explore
- Realise / Implement
- Understanding / Idea
- Artifact / Product

### Criteria for inquiry-based learning according to Reiting

- Experience-based hypothesizing: Generating personally relevant questions, assumptions and concepts based on prior knowledge and previous learning experiences.
- Authentic exploration: The actual, conceptualized discovery of solutions or approaches to solutions that have been tested for viability. The exploration can be research-based, empirical (e.g. investigation) or a mental experiment.
- Critical discourse: Collaborative reflection on the course of work that accompanies the process and includes a critical examination of the significance of the new findings, one's own learning process and the individual meaning of the learning experience.
- Conclusion-based transfer: Dissemination of personal assumptions, concepts for finding solutions, exploration results or other findings. What has been discovered is applied on the initiative of the learner. (Reiting & Gunzenreiner, 2023)

## FormAsFL: Focus on the interface between pupils and students

In the „FormAsFL“ project, lessons are carried out in the art and music learning forum as an annex to the FL. As a reflection for the pupils and as a visualization for the teachers, the children mark the aspects of the „Research and Design“ model of the University of Leipzig with adhesive labels in their research notebooks, which serve as process diaries. At the same time, PHSG students also work with this method and reflect on their processes with those of the pupils. At the PHZH, experience reports and videos from the students serve as starting points for their own processes and reflections. On the one hand, the aim is to visualize the internal processes of the students in a creative FL system and, on the other hand, to observe how the students' understanding of teaching and learning changes as a result. In addition, a questionnaire is being developed in another PHSG project with the University of Leipzig to record the criteria of FL according to Reiting (2023).

## Contacts

### Regula Pöhl

Institute for Cultural and Aesthetic Education PHSG  
regula.poehl@phsg.ch

### Judith Rüegg

Music and Performance PHZH  
judith.rueegg@phzh.ch

### Daniel Schuoler

Institute for Cultural and Aesthetic Education PHSG  
daniel.schuoler@phsg.ch

### Jérôme Zraggen

Institute for Cultural and Aesthetic Education PHSG  
jerome.zraggen@phsg.ch

## Reference literature

- Albert, S. (2020). Die Bedeutung der reflexiven Selbstforschung für die Professionalisierung von Lehrpersonen. (pp 35-47). <https://doi.org/10.25656/01:20338>
- Lehmann, J., & Mieg, H. A. (Hrsg.). (2018). Forschendes Lernen: Ein Praxisbuch. Verlag der Fachhochschule Potsdam.
- Schratz, M. (2020). Den Musterwechsel anbahnen. Die Praxis in Schule und Unterricht forschend erkunden. In M. Brinkmann (Hrsg.), Forschendes Lernen (Bd. 10, S. 123–140). Springer Fachmedien Wiesbaden. [https://doi.org/10.1007/978-3-658-28173-1\\_7](https://doi.org/10.1007/978-3-658-28173-1_7)
- Kunz, R. & Peters, M. (Hrsg.). (2019). Der professionalisierte Blick: forschendes Studieren in der Kunstpädagogik. München: kopaed.
- Harnisch-Schreiber, E. (Hrsg.); Hartmann, A. (Hrsg.); Reinwand-Weiss, V. (Hrsg.); Scheuer, J. (Hrsg.); Unterberg, L. (Hrsg.) (2023). Raus aus dem Haus. Wissenstransfer in der Kulturellen Bildung. München: kopaed.
- Mieg, H. A. (2020). Eine Systematik der Forschungsformen und ihre Eignung für Forschendes Lernen. In C. Wolf, S. Haberstroh, & M. Petersen (Eds.), Forschendes Lernen. Theorie, Empirie, Praxis (pp. 21–34). Springer VS.
- Reinmann, G. (2020). Design als Modus des Erkennens: Auf der Suche nach dem epistemologischen Kern von Design-Based Research. In J. H. Park (Ed.), Designwissenschaft trifft Bildungswissenschaft (pp. 64–69). kopaed.
- Reiting, J., & Gunzenreiner, J. (2023). Forschungsnahes und forschendes Lernen. Modellierung übergeordneter Kriterien und Darglegung dessen, was diese Kriterien für eine authentische und wis-senschaftsorientierte Bildungspraxis leisten können. In P. (Hrsg.) Tremp (Ed.), Forschendes Lernen – Qualifizierung für Lehre und Unterricht? Dok. der Tagung vom 17. / 18. Nov. 2022.
- Steinmann, A., & Mikutta, A. (2020). Designpädagogik trifft technisches Gestalten im Primärbereich. Impulse für eine fachliche Neuorientung. In J. H. Park (Ed.), Designwissenschaft trifft Bildungswissenschaft (pp. 14-25). kopaed.