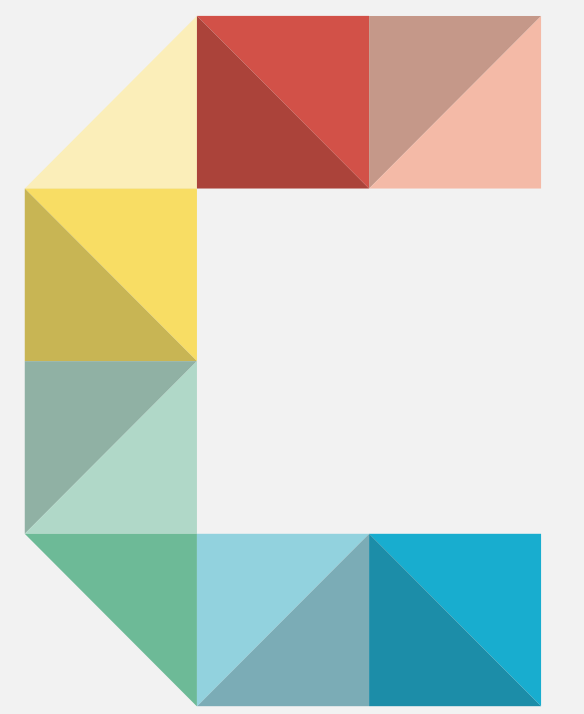


# Critical 21<sup>st</sup> century cartography higher education



by MELISSA del CARMEN ERNSTBERGER

This thesis research addresses two distinct domains: (1) critical education praxis and (2) contemporary, critical cartography. In synthesizing the two, the research makes a case for contemporary critical cartography higher education—stipulating what it is, what it could be, and what it *should* be. With a mixed-method approach, the research culminates in the proposal of an elective Critical Cartography module, developed specifically for the Cartography M.Sc. program.

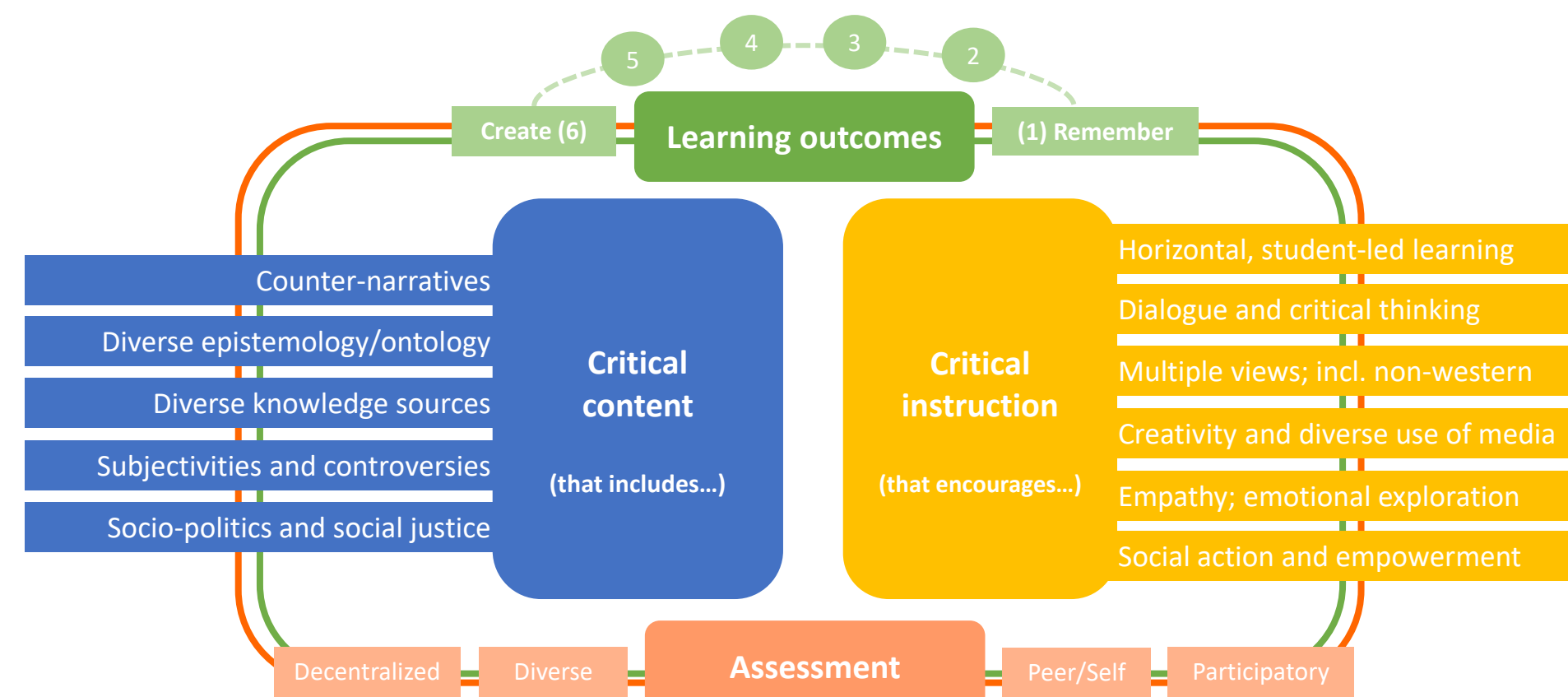


Fig. 1 General criteria for critical education along the four central curricular elements.

## CRITICAL CURRICULA

In critical pedagogy and education research, much effort has been made to demonstrate the role of the curriculum for integrating critical praxis in the classroom [1, 2, 3, 4]. This may be operationalized via four curricular elements, demonstrated in Fig. 1. In the case of cartography education, little literature points to how these generalized 'criteria' may play out in practice. The thesis research thus develops a criteria framework specifically for cartography education (Fig. 2) based on insights of critical cartography instructor interviews and syllabi documents from such courses across the world.

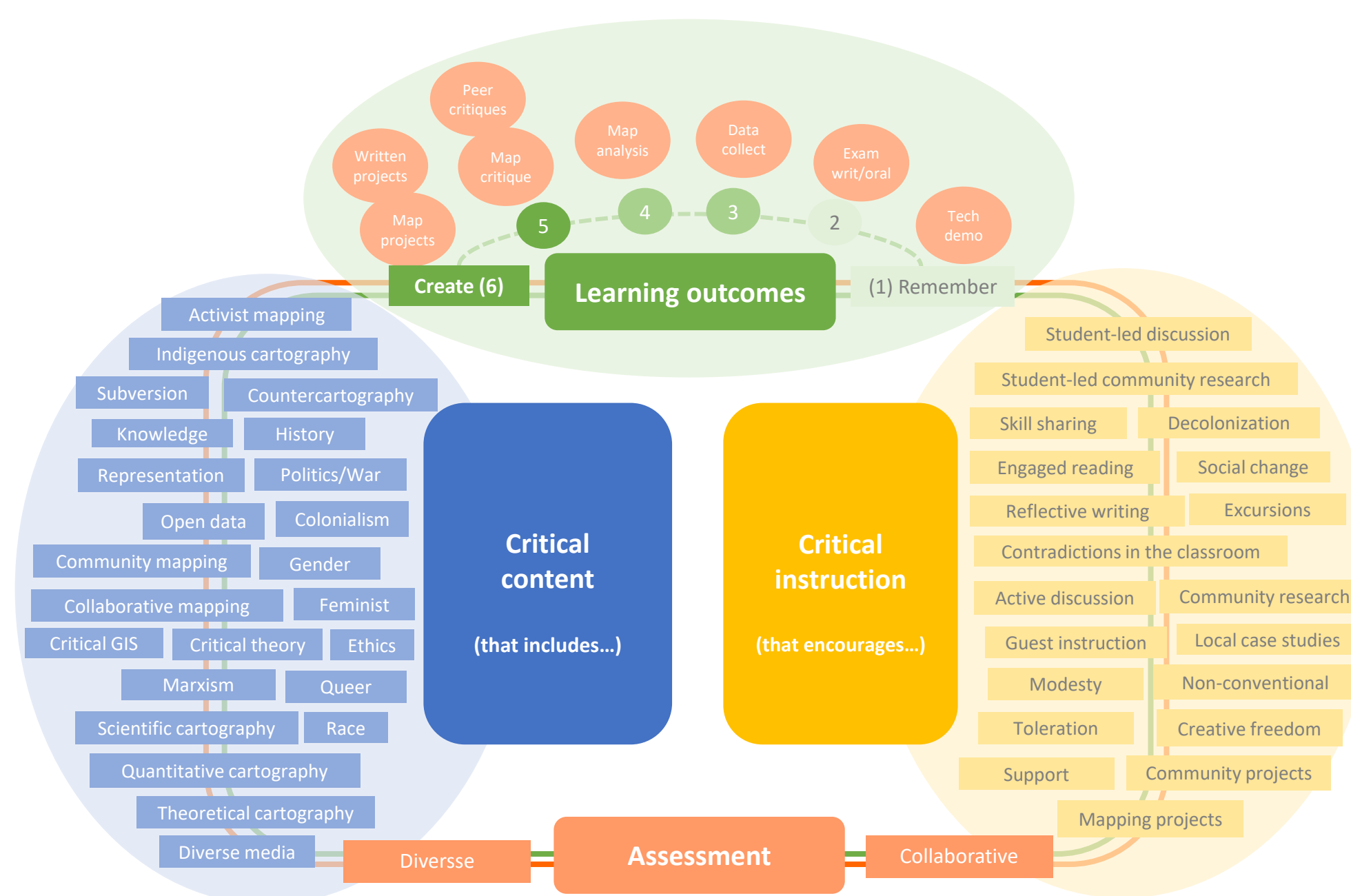


Fig. 2 Developing a criteria framework for contemporary critical cartography higher education.

## THE CARTOGRAPHY M.SC.

In a case study application, the thesis research evaluates the Cartography M.Sc. with the developed criteria framework. Through an analysis of the Module Handbook (2022), it is found that though critical instruction methods are well-dispersed throughout the program, several elements of critical content are missing, while learning outcomes and assessment are mainly exam-focused. Interviews with program directors provide insights into the findings, such as technical-critical binaries which limit 'social' content, or a lack of representation in the Module Handbook of implicit critical instruction methods applied in classrooms. From the culminated findings, the research presents a new, explicitly critical module, detailed in Fig. 3. Besides touching upon all categories of the criteria framework, it integrates elements found missing through the curriculum evaluation and takes into account on-the-ground needs and limitations of the current curriculum from the program director interviews. In a synthesis between all partner universities, it is envisioned to span three units from the 1<sup>st</sup> to 3<sup>rd</sup> semester.

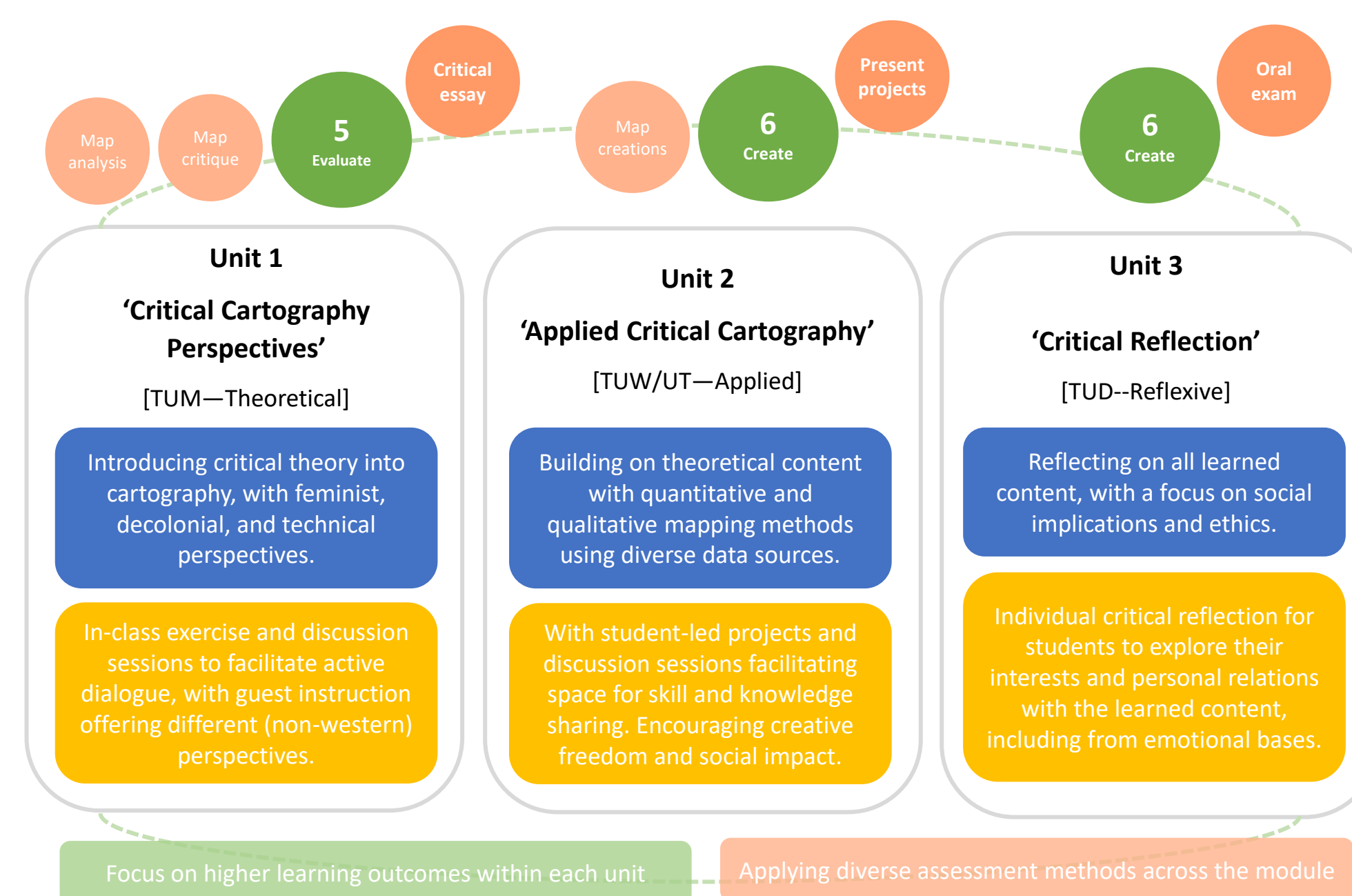


Fig. 3 Proposing a case-specific, cross-university 'Critical Cartography' module for the Cartography M.Sc.

## CONCLUSION

The module proposal should be taken as one example of many ways forward in critical cartography education praxis. Future work

could build on this by applying the framework on other programs, gathering data from existing university-level critical cartography courses, and finally, including students in discourse on education overall.

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Chair of Cartography and Visual Analytics  
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## THESIS ASSESSMENT BOARD

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Prof. Dr.-Ing. Liqiu Meng (TUM)

Supervisors:  
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M.Sc. Olesia Ignateva (external)

Reviewer:  
Dr. Paulo Raposo (UT)

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