

## Systems Thinking Approach

In the systems thinking approach students perform a seven-step sequence. This sequence is moving from defining the problem to the development of a systems-map to using that map, to hypothesizing potential solutions. These steps are also available in the Knowledge Dossier for Higher Education of the Utrecht University:

<https://www.uu.nl/en/education/educational-development-training/knowledge-dossier>

This procedure was introduced by Mathews and Jones into a Land Economics class for bachelor students at different levels (see Mathews and Jones for learning goals). Part of the course was a project task. Some key features of the course project task were as follows:

1. Students were asked to “apply systems thinking in order to explain patterns of local land use change”.
2. Students formed teams of three or four, with minimum two majors involved.
3. The course project task had the following structure. Students were “to apply systems thinking in order to explain patterns of local land use change”.
4. Teams were asked to apply the systems thinking steps listed above to aspects relevant to the problem by “listing factors that influence the problem (including all relevant actors), gathering relevant data, and sketching several potential futures for local growth using knowledge and methods acquired from the study of various disciplines.”
5. On this basis students were asked to explain local growth using causal mapping and test policy scenarios using those causal maps.
6. Groups presented drafts for peer and instructor feedback.
7. Groups together submitted a final written report and gave a class presentation for assessment.

## References:

Mathews, L. G., Jones, A., Szostak, R., & Repko, A. (2008). Using systems thinking to improve interdisciplinary learning outcomes: Reflections on a pilot study in land economics. *Issues in Interdisciplinary Studies*.