Open Educational Resources (OER) for Teaching Thematic Mapping

by **ZULFA NUR'AINI 'AFIFAH**

Thematic cartography is focused on how one can produce maps with specific techniques as a hard skill. Hard skill is an ability obtained through repetition, practice, and education. Therefore, education is necessary to provide the abilities described above and plays an important role. There are several methods to teach thematic mapping or cartography in universities. One of the methods is using Open Educational Resources (OER) which we are eager to see how high its potential for teaching thematic mapping is. OER is teaching, learning, and research resources that are published publicly or have been released under a specific intellectual property license which permits the free use or reuse by other people or institutions [1].

There has been a trend change in teaching methods for cartographic education in the last 50 years. We can see how cartographic education changed over time, from drawing expertise and analogue reproduction to digital production and reproduction [2]. The trend change in teaching leads to a new pedagogical model for students. It is necessary to create new pedagogical model for students [3]. Some research has proven that OER has a great potential to reduce the cost of developing education quality [4]. Therefore, in this research, **we looked into how educators teach thematic mapping in the universities then implement it in our OER.**

METHODOLOGY

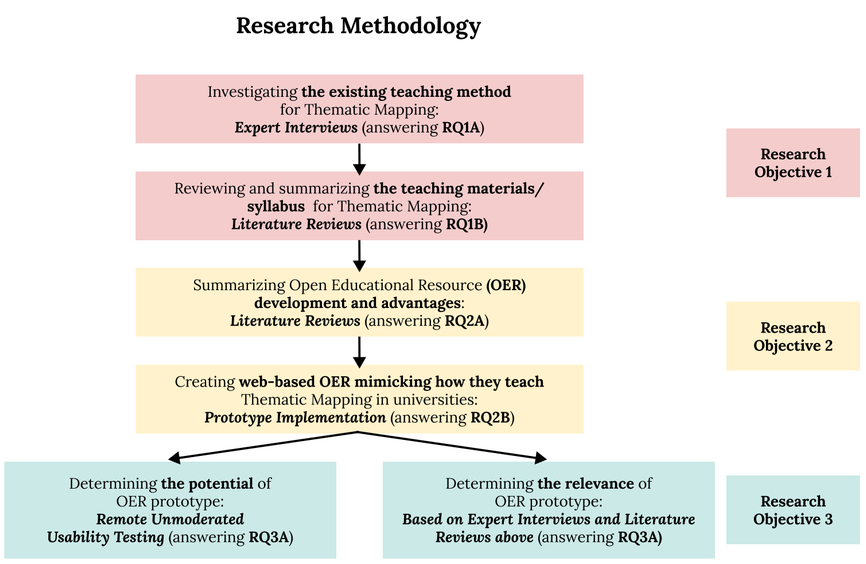

Fig. 1, Methodology Workflow

The research objectives of this research are identifying the syllabus of teaching method in university for teaching thematic cartography (RO1), see how we can implement the syllabus as an open educational resource (RO2) and determining the potential and relevance of open educational resources for teaching thematic cartography (RO3). In order to answer the research questions from research objectives, we realised the methodology work in Fig. 1 above.

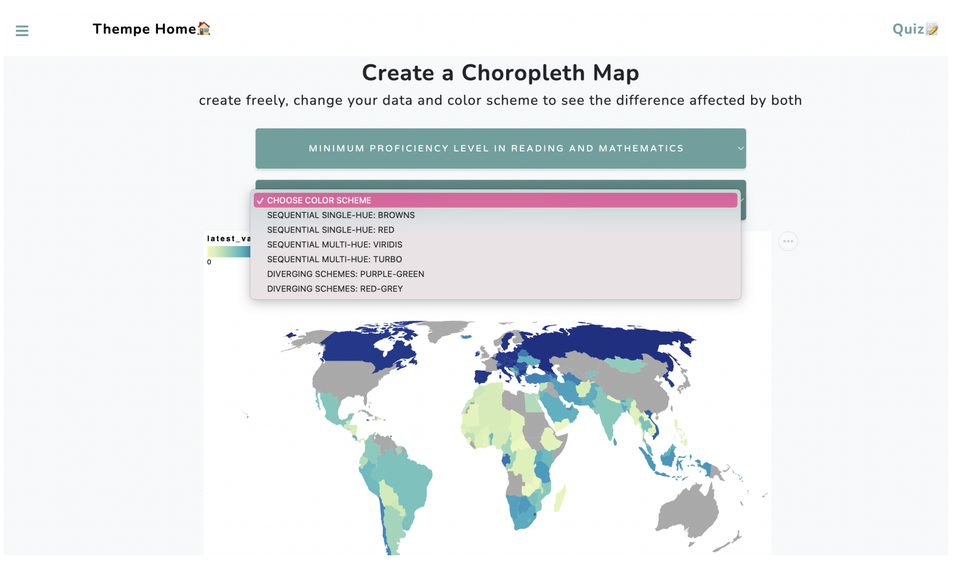

Fig. 2, THEMPE Practice Part on Choropleth Map Page

After reviewing how thematic mapping is taught in the universities and summarizing the syllabus, we implemented the result as baseline for OER prototype. We called the prototype "THEMPE", acronym of "THEmatic Mapping Practice and Explanation". THEMPE has practice part on each page, for example in Fig. 2 above.

RESULTS

In order to see how high the potential of THEMPE for teaching thematic mapping is, we conducted usability testing participated by 56 students and non-students participants. We examined the effectiveness, efficiency, and satisfaction. As the result, we reported that THEMPE achieved high effectiveness based on the task completeness rate and answers correctness. Then, in Fig. 3 and Fig. 4 we can see that THEMPE has good efficiency and satisfaction. For the relevance, we proved that we had successfully implemented the baselines (expert interview and syllabus review results) into the prototype. Hence, THEMPE has high potential and relevance to teach thematic mapping.

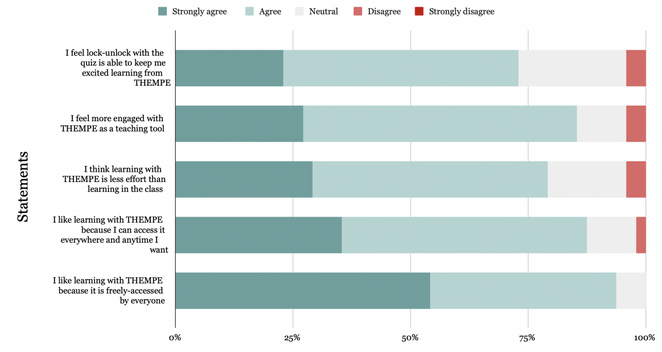

Fig. 3, Efficiency measurement for THEMPE

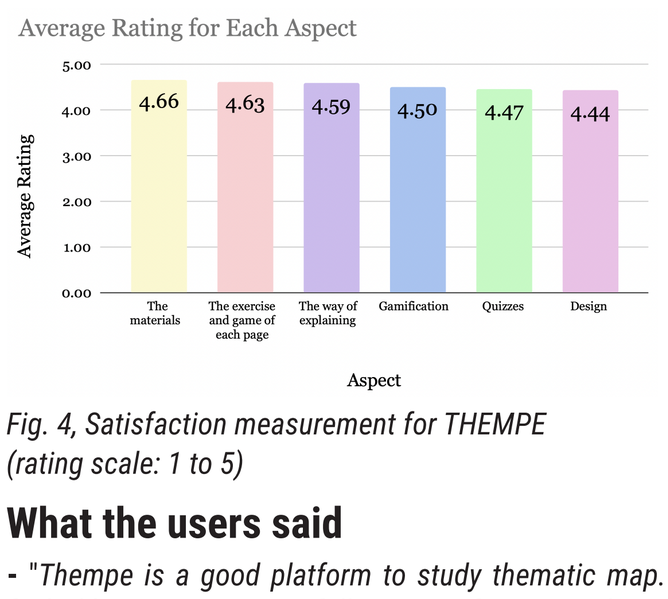

Fig. 4, Satisfaction measurement for THEMPE (rating scale: 1 to 5)

What the users said

- *"Thempe is a good platform to study thematic map. It feels like I am joining a full course of cartography. The materials are resourceful but can be explained in a clear way..."*
- *"... I know the purpose was to be a standalone education unit, but given that THEMPE is intended to be open access, I'd definitely send my students to review the module contents to practice for exams and to get extra help. It's really cool! I thought the color scheme was really appealing, and the interactivity / gamification was fun!"*

CONCLUSION

Expert interview and syllabus review inputs have been successfully implemented in THEMPE. THEMPE has high potential and relevance for teaching thematic mapping.

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KEYWORDS

Open Educational Resources, OER, Teaching,
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THEMPE is available online: ***https://zulfanaa.github.io/thempe/***
Or scan the QR code beside!

SCAN ME

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