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Leveraging Tradle to Expand Geographic Literacy in an International Trade Class

We explore the use of Tradle, a geography-based quiz game, in an international trade course to improve students' understanding of global economics. This note details the game's educational potential, outlines student engagement strategies, and discusses assessment methods.

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1. Introduction

Students entering undergraduate international trade courses often have a narrow understanding of global geography, often limited to North America and Western Europe. International trade textbooks predominantly focus on abstract theoretical models and real-world examples from major OECD countries.[1] In an effort to broaden students' knowledge of the global economy, this assignment integrates Tradle, a daily online game, to demonstrate how size, geography, and resource allocation impact a country's exports.[2]

2. Playing Tradle

Tradle[3] was developed by the Observatory of Economic Complexity (Simoes & Hidalgo, 2011) and mimics the format of The New York Times's Wordle. Puzzles have been shown to effectively support teaching economic concepts (Walstad & Bosshardt, 2020; Sikkink, 2024), and Wordle itself has been adapted as a teaching tool in other disciplines (Ritchey, 2023).

Tradle players analyze a detailed display of a country's exports, broken down by sector and overall value for the most recent year of available data.[4] Take, for example, a game involving the export mix shown in Figure 1. Players see a relatively small country with a large share of exports of recreational boats and refined petroleum. This should prompt players to deduce the local economic structure. Boating indicates a strong manufacturing and tourism sector, while petroleum suggests refining capabilities. If players guess incorrectly, they receive a similarity score and distance in kilometers from the correct country, enhancing their understanding of structural similarities between countries and geography. The game allows six attempts before revealing the correct answer, as depicted in Figure 2, which illustrates a player's journey from an initial incorrect guess to a successful second attempt.
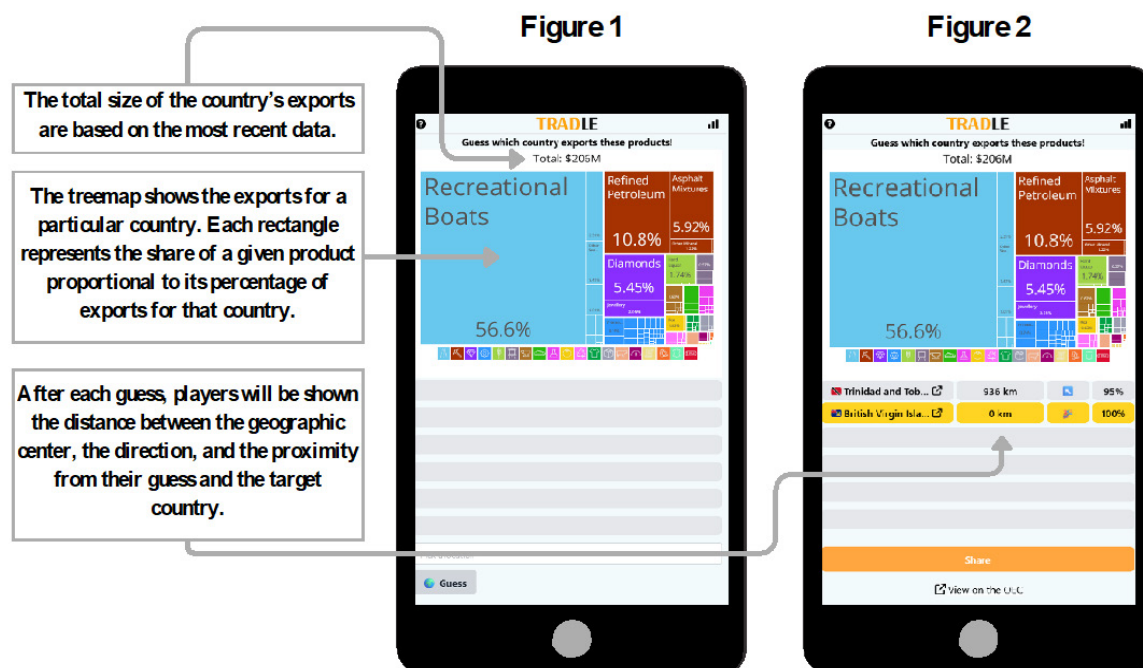
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[1] For example, a survey of Pugel (2016) finds the author makes 178 mentions of 126 countries. 72 of those mentions are of the 38 OECD member countries, including 22 mentions of the United States, 6 mentions of Canada, and 7 mentions of Mexico. Outside of the OECD, China is mentioned 14 times. Most other countries are mentioned only once.

[2] Instructors may be interested in assigning an NPR Marketplace podcast on the game as well: https://www.marketplace.org/2023/08/24/tradle-brings-wordle-style-game-to-global-exports/

[3] https://oec.world/en/tradle/

[4] The use of trade data makes Tradle uniquely beneficial for economics courses, compared to similar geography-based games, such as Worldle, which has players identify a country based on its geographical border.

Figure 1   **Figure 2**

The total size of the country's exports are based on the most recent data.

The treemap shows the exports for a particular country. Each rectangle represents the share of a given product proportional to its percentage of exports for that country.

After each guess, players will be shown the distance between the geographic center, the direction, and the proximity from their guess and the target country.

3. Tradle as an Assignment

Tradle can be adapted to fit a professor's learning objectives and assessment goals. However, the most basic version is what we call a "Tradle Journal." This assignment asks students to play the game twice a week and submit brief notes describing their thought process for picking a country at each of the various steps. These notes can be submitted online or in class. We also recommend demonstrating Tradle in class by playing it with your students or having a student volunteer do so and explaining the reasoning process aloud. This frequent interaction encourages informal competition and peer learning as students often play together before class.[5] This can help enhance classroom discussions and student engagement. Having students verbally explain their reasoning can be particularly beneficial to the class, as they may have specific knowledge of particular countries and regions that others may not.

Grading is based on completion, not accuracy, to deter academic dishonesty. Since all players receive the same puzzle daily, grading on completion prevents students from sharing answers to gain undue advantage. This format also promotes rich classroom discussions, as students are often intrigued by less familiar countries and will share the clues and reasoning that helped them identify the correct country. We have found that this type of reflection isn't as common with other assignments or with just pure lecture, and has value in improving students' perception of learning once they realize why we ask them to complete this assignment (Chakraborti & Pradhan, 2023).

Reflection assignments complement gameplay by prompting students to analyze why certain countries specialize in particular exports. Since the game is played over the course of the semester, over time, students begin to build connections between the countries they encounter in the game. This will help them to make the connection between geography,

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[5] We have informally noticed that students began arriving earlier to class to play Tradle with their classmates before class begins or to discuss strategies for solving that day's game.

economic resources, economy size, and exports. For example, they will recognize that countries that export similar mineral resources tend to be geographically similar. Countries that primarily export oil tend to be in the Middle East. Small economies that export fish tend to be islands, while small countries that export fish and hard liquor tend to be Caribbean islands.

The journal assignment can also be supplemented to examine other concepts and theories in international economics.[6] For example, students can be directed to look up a country's profile on the OEC website, see its imports, and calculate the country's trade surplus or deficit. They can also find its major trading partners. This can help facilitate discussions of comparative advantage, the gravity model, and intra-industry trade. The World Bank's Open Data website[7] allows students to look up the country's GDP per capita, labor force data, and capital stock data. These two sources combined can help facilitate the discussion of the specific factors model or help illustrate the relationship between exports and income. That is, low-income countries tend to export primary commodities and textiles. In contrast, middle-income countries tend to export light-manufactured goods, and high-income countries tend to export advanced-manufactured goods. The OEC and World Bank data can also be used to have students calculate measures of trade openness.

4. Conclusion

The Tradle game provides a flexible source of data that can be used to broaden students' global knowledge outside of most textbooks' focus on wealthy OECD countries. The game can be used in its most basic form as a simple tool to encourage students to learn about new countries around the world and their economic activity. We have found that the "Tradle Journal" assignment is an engaging tool that generates student excitement, facilitates classroom discussion, and promotes reflection. The assignment can also be supplemented with other tasks to help students see various international trade theories in "real life." While we suggest this assignment should be used primarily in international trade/international economics courses, it could easily be pared down and used in Introductory Economics courses or other Global Studies courses.

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[6] See supplemental file online.
[7] https://data.worldbank.org

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