



Introducing Advanced Economic Topics to Primary School Students: the Game of the Goose

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Abstract

Open science has become a policy priority in the European Union. Accordingly, knowledge dissemination is increasingly an essential part of academic work. However, this dissemination tends to focus on the results already obtained from research projects and not so much on disseminating predoctoral work. Moreover, the very specificity of predoctoral work usually distances it from people's everyday reality.

In response to this, this paper presents an experience focused on making accessible to primary school students an economic issue that is not normally introduced until advanced university courses, such as is the concept of inequality of opportunities and its potential socioeconomic implications.

The specific case described here is the presentation by a doctoral student of her thesis topic during the science week in which primary and secondary schools are visited in order to involve students in the work carried out at the university. In this case, the topic of inequality of opportunities is introduced to children aged between 6 and 11 years old through an adaptation of the well-known game of the goose. To begin with, players are given (in)opportunity cards that reflect people's life circumstances and determine in which position they start, then the traditional rules that role hazard spaces in the game are replaced by opportunity and handicaps cards that might lead them to gain/lose positions in the race(life).

Keywords: PhD, primary school, Economics Inequality of Opportunity, circumstances

1. Introduction

Open science has emerged as a key policy focus within the European Union [1], emphasizing the importance of disseminating knowledge in academic endeavors [2].

However, this dissemination often prioritizes sharing outcomes from research projects, rather than highlighting predoctoral work. Furthermore, the nature of predoctoral work tends to be distant from people's everyday reality, making it less accessible.

Addressing this challenge, this paper presents an initiative aimed at making complex economic concepts more accessible to primary school students. Specifically, it focuses on introducing the concept of Inequality of Opportunity and its potential socioeconomic implications [3]. Traditionally, this concept is not introduced until advanced university courses, but this experience seeks to bridge that gap and bring it to a younger audience.

2. (In)Equality of Opportunity

The study of inequality is a major topic in Economics literature. Nonetheless, numerous scientists and political philosophers [3]–[9] have pointed out that the measurement of the level of inequality is not sufficient for assessing situations of economic and social disadvantage. In this sense, it is argued that a fair society should provide individuals with the freedom to pursue



their personal goals without being hindered by factors beyond their control, such as parental background characteristics, race or gender.

The literature of Equality of Opportunity follows this latter idea of fairness and tries to estimate the part of overall inequality that is considered unfair since individuals cannot be held responsible for it, which is called Inequality of Opportunity.

According to the formalization by [10], the analysis of Inequality of Opportunity requires distinguishing between “circumstances” and “efforts”. Circumstances are understood as factors over which individuals have no control, and therefore cannot be held responsible for, while efforts can be attributed to individuals’ performance and commitment. The theoretical basis for the study of IO can be found in [11] and [12]. Both authors express their concern about how society should compensate individuals for differences in outcome due to factors beyond its responsibility, while [13] and [14] set the two fundamental ethical principles upon which the concept of Equality of Opportunity rests. According to the principle of compensation (which is already mentioned in the studies by Roemer and Van de Gaer) inequalities attributable to circumstances should be removed, while the principle of reward determines how to compensate efforts within individuals who share the same circumstances.

The idea behind the principle of compensation is becoming increasingly important when designing public policies, since according to this perspective public action should not be aimed at reducing inequalities in income, but at compensating the effect of circumstances in overall inequality. Experimental evidence provided by [15] and attitude surveys [16], [17] confirm that individuals distinguish between inequality due to the level of effort and due to circumstances, as suggested by the theory of Equality of Opportunity. This sort of inequality also affects preferences for redistribution [18], since people who believe that a high level of income or wealth is due to individuals’ own efforts and not to circumstances tend to prefer less redistributive policies.

In this context, introducing the concept of Inequality of Opportunity to children in schools is crucial for several reasons. First and foremost, children themselves suffer from this type of inequality from their very beginning at school [19]. Learning about it can help them to foster a sense of fairness and empathy. By understanding that not everyone starts from the same circumstances, children can develop a greater appreciation for the challenges and disadvantages faced by others.

By teaching about Inequality of Opportunity, schools can promote a more inclusive and compassionate society. Children learn that individuals should not be judged solely based on their outcomes, but rather on their efforts and abilities. This understanding can help reduce prejudice and discrimination, as it encourages children to view others as individuals with unique circumstances and backgrounds.

Furthermore, introducing the concept of Inequality of Opportunity empowers children to challenge and question social injustices. They learn to critically analyze societal structures and systems that perpetuate inequality. This knowledge encourages them to become active participants in creating a more equitable future, advocating for equal access to resources and opportunities for everyone.

Teaching Inequality of Opportunity also complements broader educational goals. It enhances critical thinking skills, as children learn to evaluate different factors that contribute to disparities in outcomes. It promotes interdisciplinary learning by incorporating elements of social sciences, ethics, and economics. Moreover, it encourages open discussions and respectful dialogue, creating a classroom environment that values diverse perspectives and encourages empathy.



3. Description of the experience

The experience described here takes place during the Science and Innovation Week that is organized every year around November in Spain since the year 2000. During this week, each Spanish university organizes a series of activities in its immediate geographical area with the aim of disseminating its scientific activity to the general public, including activities for different age groups.

In the 2022 edition, more than 100 researchers were involved in the University of Oviedo and more than 13,000 people in total participated in the different activities.

In our particular case, the goal was to present to primary school students the work carried out by some PhD students and recent postdocs of our team MEP (Econometric Modelling and Prediction) on the study and analysis of socioeconomic inequalities. Specifically, the focus was on introducing children aged 6 to 11 to the concept of Inequality of Opportunity, the reasons why it is important to study it and the extent to which this inequality might affect them.

To achieve this goal, three main activities were organized for a 2-hour session. First, a short introduction to the topic by the PhD student using a slide presentation. Second, some short questions about the contents of the presentation to see to what extent the audience (i.e., the primary school students) has understood it and are able connect it with their immediate reality. The format of these questions is multiple choice for children to discuss among them and chose the right one. Finally, the third activity consists of playing a modified version of the popular game "Goose". Figure 1 shows the board specially designed by the PhD student for this occasion. Instead of the usual rules where players encounter random hazards, they are given opportunity and handicap cards reflecting various life circumstances. These cards determine their starting positions (as shown in Figure 2) and could either help them advance or set them back in the "race" of life (Figure 3).

Fig.1. Board of the game

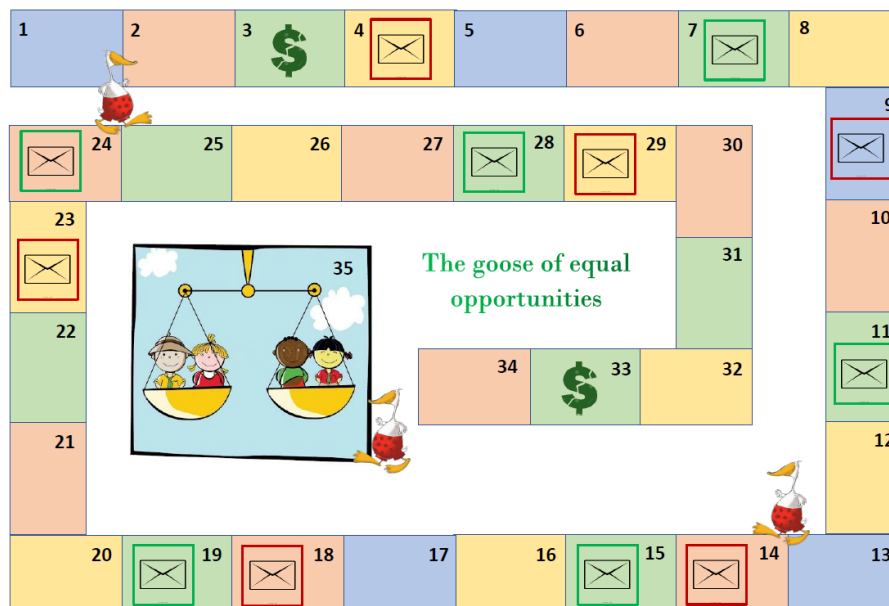




Fig.2. Examples of cards of circumstances determining starting position

<p><i>You were born in one of the poorest cities in Latin America.</i></p> <p><i>You start in box 1</i></p>	<p><i>Your father is a successful entrepreneur in a family business, so when you finish your studies you will have a secure job.</i></p> <p><i>You start in box 13</i></p>
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Fig.3. Examples of opportunity, efforts and handicaps cards

<p><i>After a lot of hard work and effort, you finish school and get a scholarship to study at one of the best universities in the world.</i></p> <p><i>You advance five squares</i></p>	<p><i>Your mother is diagnosed with an illness and has to stop working.</i></p> <p><i>You go back five squares</i></p>
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Conclusions

This paper presents an example of how to introduce advanced-economics topics to primary school children through an adaptation of the popular game of the Goose. We believe, by introducing the concept of Inequality of Opportunity at an early age, children might become better equipped to become informed and engaged citizens. They might develop a deeper understanding of social issues and might be more likely to take action to address inequality in their communities. Ultimately, educating children about Inequality of Opportunity might empower them to contribute positively to society, promoting fairness, justice, and equal opportunities for all in line with the UN Sustainable Development Goals (<https://www.undp.org/sustainable-development-goals>).

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