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Article

Grasping the concept of value: Exploring students' economic and financial literacy in citizenship education

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Keywords: Citizenship education; Social science education; Financial literacy; Economics

Purpose: To explore student's understandings of financial literacy and economics issues with an aim to inform future teaching designs.

Design/methodology/approach: Phenomenography and variation theory has been used to analyze students' understanding of a concept found in both financial and economic contexts, namely *value*.

Findings: Students need to discern that value is attributed, related to scarcity and to other values in order to elaborate their understanding. Thus, teaching also needs to address these issues.


Research implications: A social science framing of financial literacy and economics can facilitate a teaching that aims for the development of students' critical thinking and future ability to make informed choices.

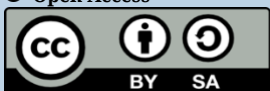
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1 INTRODUCTION

The understanding of both economic and financial issues has, during the last decades, been emphasized as central in mass-education (Lewis & Messy, 2013; Lusardi 2008; Lusardi & Mitchell, 2011, 2013). This development grew stronger after the financial crisis of 2008-2009 and the following long-term recession (OECD/Russia's G20 Presidency, 2013). However, economics and financial literacy do not share origin, nor do concepts or rationales converge. While economics is an established academic discipline, devoted to the study of how economic relations work on a global and national level, the term "financial literacy" denotes the combined knowledge, attitudes, and behaviors of individuals in relation to financial concepts, products and instruments, including the ability to make informed and responsible financial decisions (Bertea, & Zait, 2014; Xu & Zia, 2012). The field of financial literacy also seems to have a political rather than academic origin and its educational aims have been described as unresolved (Pinto, 2016; Willis, 2017). At the same time, financial literacy is often regarded as a subset of economics, and financial literacy education is commonly regarded as an integrated part of economics education. In curricula and syllabi, economic and financial features are hence often associated and further related to each other (Seeber, 2021). In a Swedish setting, economics and financial literacy are both included in social science (Swedish National Agency for Education [SNAE], 2018), which is Sweden's main subject for citizenship education in both primary and secondary school (Sandahl et al., 2022). Examples from the syllabus regarding year one to three include "money, its use and value" and "different examples of payment methods and what some common goods and services can cost" (SNAE, 2018, p. 229), for year four to six "relationships between work, income and consumption" (p. 230), and for year seven to nine "how the finances of households, companies and the public sector are linked together" (p.232). Thus, it is also likely that teachers teach this content as being a singular teaching unit (cf. Björklund, 2019).

However, the ambition to interrelate economics and financial literacy is also conveyed as problematic and laden with both curricular and teaching challenges (Björklund, 2021; Lofström & van den Berg, 2013; Remmele & Seeber, 2012; Retzmann & Seeber, 2016). Even though economic and financial issues overlap, which, in turn, provide arguments for associating financial literacy with economics, both teaching and learning are affected by the fact that there are contextual and epistemic differences between economics and financial literacy (Retzmann & Seeber, 2016). Remmele (2016) even describes financial phenomena as non-epistemic, in the sense that they are "something that enters our horizon and asks for response, while in principle it escapes our ways of comprehending" (p. 41). Remmele (2016) suggests that in order to develop a critical civic judgement, financial literacy alone is not sufficient, but students also need civic competence regarding both economic and financial issues which is a position that is supported by several other studies (Berti, 2016; Lefrançois et al., 2017). To further complicate matters, economics, in its own right, is acknowledged as a major learning challenge for both students in schools as well as at universities (Jägerskog et al., 2019; Jägerskog, 2021; Mangan & Davies, 2010).

At the same time, Björklund and Sandahl (2020, 2021) show that when economics and financial literacy issues are framed by citizenship education, such as in the context of social science education in Sweden, teaching can benefit from making use of concepts and systemic knowledge from both economics and financial literacy education. Furthermore, a citizenship education framework involves students' own views and interests, as well as the different social science disciplines that are included in social science education (such as political science, sociology and law (Christensen & Grammes, 2020)). This raises further questions regarding what kind of economic and financial content and issues that are relevant to teach and learn within social science as a citizenship education in primary and secondary school.

1.1 The combination of economics and financial literacy in social science

In Sweden, economics is contextualized by the social science subject which is notable in both syllabus and teaching practice. The syllabus instructs the teaching to relate economics to both political and sociological aspects, and teachers often utilize teaching instruments that derive from both political science and sociology when teaching economics (Björklund, 2019; SNAE, 2018). Instead of solely focus teaching on economic theory and concepts, the contextualization of economics by the social science subject could be further related to citizenship education and used as an aim for elaborating students' critical civic judgment (Tväråna, 2019; cf. Lefrançois et al., 2017; Westheimer & Kahne, 2004). The association of financial literacy into citizenship education adds yet another dimension to both economics and social science teaching and learning that is quite unexplored in relation to primary and secondary school. There is also a lack of research regarding financial literacy when integrated in another subject such as social science (OECD, 2018). This makes the Swedish context a sufficient setting to further explore financial literacy and economics teaching and learning.

The aim of this article is to explore how primary and secondary school students understand economic and financial issues within the context of social science education, and to discuss how knowledge of these understandings can contribute to teaching economic and financial issues in a way that promotes critical civic judgement. In order to understand how economic and financial literacy issues can be understood as interrelated content features embedded in citizenship education, it is important to gain a better understanding of students' understandings of concepts which have both economic and financial connotations, yet also colloquial meanings. Such a concept is *value*, which is commonly used in teaching and learning, relating both to personal values and to economic concepts such as price. The questions posed in this article are:

- How do students in primary and secondary school understand the concept of 'value'?
- What do the students need to discern in order to advance their understanding concerning value as a concept?

Results will be presented and discussed in relation to how knowledge of students' different

understandings of value can inform teaching concerning economic and financial issues in the context of social science as citizenship education.

2 PREVIOUS RESEARCH

The significance and occurrence of economic and financial features in education has increased all over the world during the last decades (OECD, 2019). Both education scholars and authorities have advocated for the need to increase and advance both economic and financial understanding among students (Aprea et al., 2016; Davies, 2006), where salient arguments have been the effects of the financial crisis of 2008-2009 on the economy as well as personal finances (Löfström & van den Berg, 2013). Another pertinent argument has concerned the increased individual responsibilities for welfare functions such as housing, healthcare and pension, which has resulted in a growing relationship between individuals and the financial system (Lusardi, 2008). However, there is a lack of research concerning economics and financial literacy teaching, especially in a Nordic setting (Madsen & Stabel Jørgensen, 2020) where these topics are often contextualized as part of citizenship education, which in the Swedish setting means social science (Sandahl et al., 2022).

2.1 Economics and financial literacy in social science education

Economics is considered to be a pivotal general competence and is therefore implemented in school systems all over the world (Dizon, 2022; Siegfried & Wuttke, 2021). However, economics is a hard topic to grasp for teachers (Löfström & van den Berg, 2013). Reasons for this can be found both in teacher training (Fagen, 2007) and teaching approaches (Mergendoller et al., 2010). In Sweden, economics has been an integrated part of the social science subject since the 1960's (Nicklasson, 1983) and teachers have received formal economics training during their pre-service teachers' education. However, Swedish teachers also express reluctance to teach economics where they both doubt their economic competence and ability to teach economics (Modig, 2017). Financial literacy, however, is not included in any explicit fashion in any teacher training programme in Sweden which leaves teachers to use their everyday knowledge concerning private finances (Björklund, 2019). This should also be understood against a background of financial literacy being a politically motivated subject that lacks a clear epistemic origin which hence makes financial literacy hard to teach in relation to questions regarding content, contextualization and teaching instruments (Remmele, 2016). In interviews, teachers describe financial issues as mainly private matters that involve traditional householding and money management, which, in turn, seems to lead teachers to focus on procedural knowledge such as budgeting exercises (Björklund, 2019, 2020). However, if the aim of financial literacy education is to elaborate students' ability to make informed financial choices in the future, a sole focus on a money management approach increases the risk of missing this mark (Björklund & Sandahl, 2020). Furthermore, the same teachers also

describe difficulties to discuss financial matters together with societal questions. Even though the two fields of economics and financial literacy are associated in the Swedish curriculum, teachers still express that it is not clear which societal issues and contexts to associate financial questions with (Björklund, 2019, 2020). This can explain why teachers often fail to utilize the contextualization between financial literacy and social sciences and thereby to explain economic and societal factors that affect private finances (Björklund, 2021). The matter is further emphasized when teachers mainly discuss economics in reference to questions concerning the economy in society rather than to questions regarding the individual (Björklund, 2020). In all, many teachers seem to be aware that they ought to aim for a financial literacy teaching that stretches beyond money management but they do not know what to look for in order to elaborate their teaching (Björklund, 2021).

There is an ongoing debate concerning the relation between economics and financial literacy and whether it is sufficient to frame financial literacy as a subdiscipline to economics (Retzmann & Seeber, 2016; Seeber, 2021). Several education scholars also suggest that financial and economic matters should be discussed in relation to both individual and societal perspectives (Berti, 2016; Lefrançois et al., 2017). But as discussed earlier, economics and financial literacy do not share a common epistemic origin and are not directed towards the same fields of knowledge. There is little research exploring if, and how, economic concepts can be used to explain financial issues, or if discussing financial issues is a feasible way of illustrating and understanding the economic mechanisms of society. Thus, combining these different fields in the context of citizenship education seems to be a teaching challenge which is chiefly unresolved.

2.2 Students' understandings of economic and financial concepts

Students' understanding of economic and financial issues is often studied in relation to salient concepts, such as *price*, which mainly derive from economics (Lusardi & Mitchell, 2013; Leiser & Beth Halachmi, 2006; Marton & Pang, 2005; Pong, 1998). Davies (2011) suggests that research findings regarding students' conceptions of price are quite consistent, with four main categories:

- C1. Price reflects intrinsic worth.
- C2. Price reflects supply.
- C3. Price reflects demand – what consumers are prepared to pay.
- C4. Price reflects the combination of supply and demand (p. 102)

Davies suggests that there are no student understandings that perceive price as a phenomenon related to time, competition or opportunity cost, which, perhaps, may be due to a strict economic focus in the questions used for research (Davies, 2011). This raises questions regarding how contextualization of the questions posed to the students affect both answers and our view of their economic and financial knowledge. Durden (2018) found that when students were given a question regarding an individual producer, they

often gave responses conveying an understanding of price as the consequence of decisions of individual agents, while a question about a market problem tended to promote student responses that conveyed an understanding of price as an outcome of market forces. Similarly, Jägerskog et al. (2019) identified that when students were invited to discuss questions related to different aspects of price, students expressed a more complex understanding of the concept.

Thus, when discussing the relation between and integration of economic and financial issues in teaching and learning, there is a need for a broader concept that relates economic issues to personal finances and students' life-worlds and thereby captures more colloquial discussions concerning income, expenditure, money usage and social status. The concept of *value* seems to incorporate such issues in a quite broad sense since it relates to personal values which also can be related to more disciplinary concepts such as price (Sawatzki, 2017). The concept of value can therefore be utilized to capture students' conceptions concerning the interrelatedness concerning economic and financial features, as well as for further discussions concerning disciplinary defined concepts of economic and financial significance, such as price. Earlier studies have discussed the relation between disciplinary and colloquial interpretations of *value*. One example is Davies & Lundholm (2012) who focus on students' arguments concerning whether a range of goods and services should be provided for free. The authors suggest that both primary and secondary students often find support for their argumentation in their own life-world experience and personal values, while postgraduate students in economics include consequences of the choices, hence value is often related to opportunity cost. The concept of opportunity cost has gained a lot of interest in economics education research (Ferraro & Taylor, 2005; O'Donnell, 2009; Salemi, 2005). However, most research on students' understanding of this concept has focused on whether they can use the term 'opportunity cost' in an economic sense rather than exploring different conceptions of consequences of choice (Davies, 2011). Criticizing this approach, Davies suggests that "efforts to reveal understanding of opportunity cost have simply not been fit for purpose because they have not given sufficient attention to the role of opportunity cost as an explanation of relative value in market systems" (2011, p. 106). Even though opportunity cost is a concept derived from economics, it still has the potential to explain consequences of choice and value in a variety of settings and therefore this concept can also be related to financial literacy.

Salient economic concepts often present inherent complexity with a bearing on economic rationales and presumed individual behavior regarding financial issues (Davies & Mangan, 2007, Shanahan & Meyer, 2006). However, this complexity is often hidden from students since the underlying rationales of these concepts are not easily revealed by simple definitions. Instead, students' understanding of complex concepts seem to benefit from, not only an economic contextualization but also a societal framing where the interests and perspectives of different stakeholders become visible. Thus, social science seems to be a sufficient subject for financial literacy teaching and learning (Björklund & Sandahl, 2021; Jägerskog, 2020).

2.3 'Value' in this study

In order to examine students' economic and financial understandings, the concept of *value* is applicable in relation to both economic and financial contexts. Value in a disciplinary sense is often discussed in relation to price and cost. A normal business transaction, where two sides agree on a shared value, is an illustration of this, often expressed as an agreement on price. A more complex aspect of value is externalities or social costs which are not covered in any normal pricing, for example in relation to roads or construction work (Davies & Lundholm, 2012). Value in a colloquial sense can be related to individuals' conceptions and motives that direct their financial choices and actions. Therefore, the concept of value is also related to personal views and convictions that can be compared to the concept of values. Here, disciplinary and colloquial meanings of value converge and add perspectives to this issue which can be expressed in both financial and non-financial aspects, such as consumers' utility of a certain piece of garment or public access to a forest. Both disciplinary and colloquial conceptions of value can be related to both economic and financial concepts such as money, payment methods and costs. Thus, the concept of value also seems to invite to students both colloquial and disciplinary interpretations (Sawatzki, 2017) which is vital for this study.

Rather than to frame this study by economic or financial perspectives, we aim to focus on how the content appears for students and thereby to explore how economics and financial literacy can be understood as part of citizenship education, in this case the Swedish social studies subject. By investigating how students of different ages in primary and secondary school understand and treat the concept of value in the context of social science teaching, this article hopes to contribute to the further understanding of how economics and financial literacy can be integrated in citizenship education.

3 THEORETICAL FRAMEWORK

In order to analyze students' different conceptions of value, the theoretical framework of phenomenography and variation theory has been used (Marton, 2015). Phenomenography is an empirically grounded method for approaching subject conceptions from the perspective of students' understanding and life worlds. In phenomenography, informants' ways of describing and/or relating to a phenomenon are organized in different categories of descriptions, expressing different conceptions of the phenomenon. The categories hence show different ways of experiencing and relating to the phenomenon, which, in turn, are dependent on both students' previous life-world experiences as well as on teaching design. The different categories of descriptions translate into different conceptions that can be organized in an *outcome space* which relates the conceptions to each other - from simple to more complex ways of experiencing the phenomenon (Pang & Ki, 2016; Rovio-Johansson & Ingerman, 2016).

A basic assumption of phenomenography is that a phenomenon, in this case the concept of value, can be experienced in a number of qualitatively different ways. The ways in

which people relate to a phenomenon (for example, by describing the phenomenon or otherwise act in relation to the phenomenon) can be interpreted as expressions of how these people experience the phenomenon (Marton, 2015). This means that students' different ways of experiencing value is crucial to their possibilities to relate to it. The way in which value is experienced by students is thus assumed to play a role in how they are able to analyze economic and financial issues relating to the value of certain goods.

In order for students to advance their learning of a phenomenon, certain aspects become crucial to discern (Pang & Ki, 2016). In variation theory, these are called *critical aspects* (Mun Ling & Marton, 2011; Pang & Ki, 2016), and can inform a teaching design where measures are adapted to students' conceptions and educational needs in relation to a certain phenomenon. Critical aspects are theoretical constructs resulting from the analysis of what distinguishes one experience from another. Identifying critical aspects of a phenomenon and allowing these to form the basis of teaching is, from a variation theory perspective, crucial for students' learning (Lo, 2012; Marton, 2015). Learning is thus understood as developing an increasingly differentiated experience of a phenomenon or subject content (Marton & Booth, 1997).

It is important that different conceptions should not be considered linked to individuals. The same individual may experience a phenomenon differently in different contexts (Marton & Pong, 2005) and it is possible for a student to express more than one way of experiencing a phenomenon. Thus, different parts of a written response from the same student may include several different categories of experiences (Tväråna, 2019).

4 METHODS AND MATERIALS

4.1 Study design

Framed as a learning study (Marton, 2015), the data material was generated through both a pilot survey and a pre- and post-test in relation to two cycles of research lessons conducted in both primary school (years 1, 4 and 5) and secondary school (years 8 and 9). Students participating in the study were evenly distributed in three different schools. Two of the schools were situated in middle class areas in relation to a major city in Sweden where students can be described as having a homogenous language, cultural and socioeconomic background. However, the third school was situated in a deprived area in relation to a major city in Sweden, with students that were more heterogeneous in relation cultural and socioeconomic origin.

The pre- and post-test data consisted of 22 recorded and transcribed group discussions from year 1 in primary school, 130 written answers to open-ended questions from students in year 4-6 in primary school, and 109 written answers to open-ended questions from students in year 8-9 in secondary school. The use of student responses written both before and after students had received a lesson on the topic of economic value, provides a wide range of students' experience of value in the analysis.

In order to invite students to convey their understanding of the concept of value, two different task approaches were used. In the initial pilot survey, the students were prompted to answer a question where the concept of value was related to the concept of price. In the pre- and post-test, the students were instead prompted to relate the concept of value to a product. As a result, the data material consists of students reasoning about the concept of value in relation to two different questions: *Why don't you always buy the cheapest product?* and *What's the value of water?* Using these different approaches in relation to the concept of value also adds to the range of students' experience of value in the data material.

4.2 Data analysis

Analysis of the material followed phenomenographic methods and was presented in an outcome space where critical aspects (Åkerlind, 2005; Marton, 2015) were identified and presented. This is further explicated in this section.

The phenomenographic analysis focused on identifying qualitatively different ways of experiencing the concept of value, as expressed in the students' answers. The analysis was performed in several steps. Firstly, we identified what the students were talking about when they reasoned about the question posed. Secondly, students' different ways of experiencing value were identified, as expressed in their answers. In this step, the analysis focused on identifying ulterior understandings of the phenomenon that could explain why students expressed themselves about value the way they did. In other words, how students express themselves in relation to value was also assumed to represent qualitatively different ways of understanding the phenomenon. Thirdly, the different student responses were organized into categories representing qualitatively different conceptions of value. These categories, which are considered theoretical constructs, were organized in an outcome space based on how they relate to each other. Fourthly, critical aspects of the phenomenon were identified.

Initially, data from the different age categories, primary and secondary school, were analyzed separately by different researchers in collaboration with the teachers that participated in the interventions. This resulted in two different tentative outcome spaces. However, when compared to each other, the two outcome spaces were very similar and, more importantly, even though students from the different age groups expressed themselves in different ways, all students conveyed equivalent conceptions of value. Thus, in a re-analysis, the data from both age groups were used to create one single outcome space.

4.3 Ethical considerations

All aspects of this study have been conducted in accordance with the guidelines stipulated by the Swedish Research Council (2017). Both students and guardians were informed about the purpose of the research, implementation, data collection methods and data

management. Consent from guardians was collected for all participating students. All those involved were also informed that any participation was voluntary and that they, without any justification, could terminate their participation at any time. However, no student chose to discontinue their participation in the study. All written student responses have been deidentified and anonymized to avoid names being identifiable by third parties.

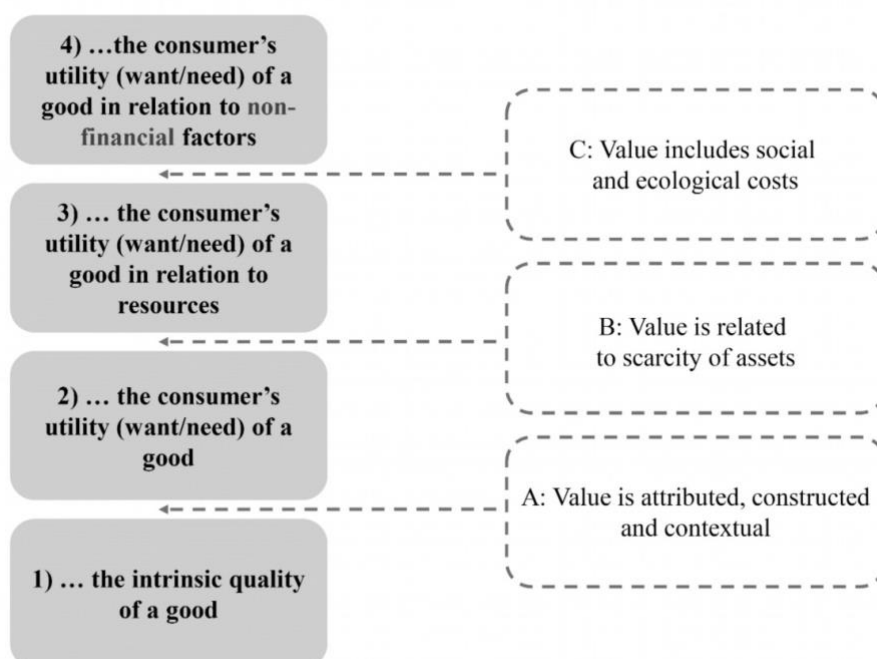
5. RESULTS

Two main results were identified in the study. First, qualitatively different ways of experiencing the concept of value were identified. Second, critical aspects were identified that describe what students need to discern, and hence what teaching needs to focus upon for students to develop a more qualified and complex understanding of value.

Four different ways of experiencing value were identified in the data (see Figure 1). The four conceptions identified were (i) value as the intrinsic quality of a good, (ii) value as the consumer’s utility (want/need) of a good, (iii) value as the consumer’s utility (want/need) of a good in relation to resources and (iv) value as the consumer’s utility (want/need) of a good in relation to non-financial factors. The different categories of descriptions expressing these conceptions will be described in more detail below and exemplified through quotations. For each category, quotations will be taken from both the material focusing on the value of water and from the material focusing on why one does not always buy the least expensive product.

Figure 1. Outcome space of conceptions of value with three critical aspects

Value appears as...



5.1 Value as intrinsic quality of a good

In utterances typical for this conception, students described value as an intrinsic quality of the good focused upon. This means that the students expressed an understanding of value as a measure of the inherent quality of the good. The question that implicitly seems to direct students' answers in this category of description hence is: Is the product of high quality?

[1] We don't always buy the cheapest alternative because most of the time the cheapest alternative has a lower quality, whereas the more expensive alternative has a better quality. If we talk about food, maybe the more expensive food will last longer. (Year 5)

[2] Why we don't always buy the cheapest alternative when we go shopping is because the cheapest is probably not the best. When it comes to food, the more expensive alternative has a "better" background. When it comes to clothes the more expensive alternative is probably better looking/more comfortable, etc. The more expensive alternative often has a better quality. (Year 9)

[3] Water is the most important thing that exists. It is worth life. (Year 8)

In utterances [1] and [2], both students argue that if a product is expensive, it is also of high quality, and conversely if it is of high quality, it is also expensive. The most expensive product, or good, is thereby considered the best. In the first utterance the student refers to food, arguing that more expensive food will last longer. In the second utterance another student also refers to clothes, arguing that more expensive clothes have a better quality and look better than cheaper clothes. In utterance [3] the intrinsic quality of water is expressed in terms of water being the most important thing that exists and thus worth life. In other words - the value of water is in the water itself.

5.2 Value as the consumer's utility (want/need) of a good

Some utterances suggested a conception of value as a measure of how needed or how much wanted a good is for the consumer. In other words, if a consumer really wants or needs a product, because it is somehow useful to the consumer, it has a high value. The question that implicitly seems to direct students' answers in this category hence is: Do I want/need the product?

[4] We don't always buy the cheapest because we want to flex [play cool] and therefore choose a product with an expensive label instead. (Year 5)

[5] You don't always buy the cheapest because it is all about status and labels. The more expensive labels are often the ones that are considered finer and better, so therefore you buy them. Even though a cheaper piece of clothing is manufactured in the same factory as a more expensive one, you choose the more expensive one. (Year 9)

[6] Water is worth a lot and saves many lives. Without water we would not survive, and we are very happy that we have water and that we also have clean water that we can drink, take a shower in, and get clean. Water gives us the possibility to drink, build things and cook food. Water is worth very much, almost everything. Not a chance we would survive without it. (Year 8)

In all three utterances above, the understanding of value seems to be utility-related, hence how much a product is needed or wanted by the consumer. In utterances [4] and [5], this “want” is expressed in terms of popularity - a certain label may be more popular than another, and therefore it is worth more and the consumer is willing to pay a higher price for it. Value is thus understood as a measure of how popular the product is and thus how much it is wanted by the consumer. In utterance [6] this “want” is expressed in terms of need or necessity - since we need water so much in our daily lives and for our survival, it is worth a lot. A product hence has a high value if it is highly needed.

5.3 Value as the consumer’s utility (want/need) of a good in relation to resources

In this conception, value is understood as the consumer’s want/need of a good in relation to the consumer’s available resources. Value is thus not only related to how much the product is needed or wanted by the consumer (as was the case in the second conception), but also to resources. The question that implicitly seems to direct students’ answers in this category hence is: Is buying the product worth the money it costs?

[7] It can also depend on what kind of relationship you have to money and how you value things. For someone with a lot of money, maybe 400 SEK more or less on a pair of jeans doesn’t matter, but for someone else, 400 SEK is a lot, and they understand that this money could cover the cost of lots of food. So maybe they decide to buy food instead of a pair of expensive jeans. (Year 9)

[8] You don’t always buy the cheapest, because maybe you are rich and then you buy the most expensive, because you know you can afford other things as well, like food and such. (Year 5)

[9] Water is worth much more in, for instance, Africa than what it is in Sweden. Here we have so much water, so it is not worth much. (Year 4)

In utterances [7] and [8] the students express a conception of value as the utility of the good in relation to the consumer’s own financial resources. In utterance [7] the cost of jeans is related to the cost of food, as well as to how much money the buyer has. In utterance [8] the student expresses a more general idea of a buyer’s need to reflect on what something costs, what else will be needed to invest in and how much money there is at hand. The idea of “cost” is thus implied here, as value is related both to how much a product is wanted/needed, what other products the consumer might want or need to purchase instead and how much money the consumer has. In utterance [9] the resource

related to is not the consumer's own financial resources, but the presumed scarcity of the product. The student argues that water is more valuable in a context where there is a lack of it, than in a context where it is easily obtained. Understanding value as related to resources could thus include both resources in terms of the consumer's own financial resources and in terms of the scarcity of the particular good in question.

5.4 Value as the consumer's utility (want/need) of a good in relation to non-financial factors

The utterances in this category of descriptions express the conception of value as the utility of a good in relation to the utility (want or need) of non-financial factors, such as social and ecological factors. Value is thus not limited to the utility for and the resources of the individual consumer, or to how much there is of a particular product but is extended to include also "the larger picture". This includes for instance sustainability aspects and social values. The question implied in this category is: Is it worth buying the product in a wider perspective?

[10] You buy more expensive products depending on your economy and how much you are ready to spend. For instance, for some people it is important to buy ecological products. This is a bit more expensive, but it has a positive impact on the environment. (Year 9)

[11] One thing that is important is that the food is locally produced and that it is ecological, and this often costs more. So, I am willing to pay more if I know that there is a smaller climate impact from a certain product and that those who produced it were treated well, or that the animals lived under good conditions. (Year 9)

[12] Water has a great value, it is worth very much, but it has a different value to different people in different situations. In some countries in different parts of the world, there is a great need for clean water, for instance Africa. For them it can be difficult to get hold of clean water. Many people in for instance Sweden use extreme amounts of water for all sorts of everyday activities. And nice water bottles are bought from for instance "The Alps", but those bottles are transported a long way in order to reach Sweden, and then it gets both expensive and really bad for the environment. (Year 8)

In all three utterances above, the value of the product/good is related to the value of environmental factors. In utterance [10] the drive to buy ecological products is highlighted, in utterance [11] the student raises climate impact as a factor affecting a consumer's willingness to pay more for a product and in utterance [12] the student problematizes that exclusive water bottles (with water from "The Alps") are transported across Europe to reach Sweden, which has a negative influence on the environment. Utterance [11] also raises social factors as related to value in terms of people being willing

to pay more for a product if the people producing it are being treated well.

5.5 Critical aspects that need to be focused upon in teaching

In the analysis, three aspects were identified that seem to be critical for students to discern in order to develop a more qualified and complex understanding of value (see Figure 1). These critical aspects therefore need to be focused upon in teaching. Firstly, students need to be given the opportunity to discern that value is attributed, constructed and contextual. This means that students need to develop an understanding of value as being socially constructed rather than being intrinsic in the product. Students who have not yet discerned this aspect understand value as a product's intrinsic quality, whereas students who have discerned it understand value as affected by the consumer's individual idea of utility and thus something which alters with context. Secondly, students need to discern that *value is related* to scarcity of assets. The core of this critical aspect is that value does not exist in itself but emerges in relation to the scarcity of resources. This could be the consumer's own economic resources, or the resource related to the product itself. Thirdly, students need to discern that value includes social and ecological costs. The core of this critical aspect is that economic value needs to be understood as part of a larger picture, and that the value of a good always relates to broader social and ecological contexts. When students have not yet discerned this aspect, value is related to monetary resources on an individual level or related to the scarcity of the product. However, when this last aspect is discerned, students express an understanding of value as related to societal and ecological costs, which involves for instance internalization of costs for external effects, sustainability and a fair producer chain.

6 DISCUSSION

The results from the analysis show that students in both primary and secondary school can understand (i) value as the intrinsic quality of a good, (ii) value as the consumer's utility (want/need) of a good, (iii) value as the consumer's utility (want/need) of a good in relation to resources and (iv) value as the consumer's utility (want/need) of a good in relation to non-financial factors. In accordance with the assumptions of variation theory, the critical aspects discerned in the more complex conceptions of value should be focused in teaching for students to obtain a more qualified understanding of the concept. Based on this assumption we discuss how knowledge concerning the differences between students' different conceptions of value can inform teaching economic and financial issues in the context of citizenship education.

It seems that many students, when experiencing value as the intrinsic quality of a good, equate value and quality - what is the point of charging more or paying more for a product if the product is not superior to other products in any way? This conception was common among students in both primary and secondary school; however, the same conception was more common among students from schools in deprived areas compared to students from

affluent areas. In relation to a traditional economic vocabulary, this conception means that students often do not discern or understand the most basic idea of value - that it is a construct constituted in a social context as well as in relation to material conditions, and hence related to supply and demand (Davies, 2011). Thus, it seems consequential that the first aspect that is critical for students to discern, and to include in teaching, is that *value is attributed, constructed and contextual*. Here, it is important to stress that any elaboration of students' understanding concerning value needs to include, not only economic but also social aspects. In the teaching interventions, a comparison between the price of tap-water, bottled water from a budget brand, and bottled water from a luxury brand was used to highlight attribution as an aspect of value. This invited the students to a discussion about different reasons for wanting or needing a good, and to talk about the difference between essential needs and socially and culturally constructed wants.

The second conception in the outcome space of this study, value as the consumer's utility (want/need) of a good, focuses on demand, and in contrast to the conceptions of price presented by Davies (2011), none of the conceptions of value in this study focused on supply. This probably reflects a crucial difference between the concept of price as a mediator between demand and supply, and the concept of value as an indication of the importance of a good. Even though this importance is not intrinsic to the good, it cannot be reduced to an outcome of the interplay of supply and demand. Instead, it is possible to render high value to goods that are of great importance to us regardless of supply. This became evident when the question: "What is the value of water?" was discussed, since this question prompted answers where the fact that *value is related to scarcity of assets* was not taken into account. Many students, particularly the younger ones, described water as an invaluable asset, neglecting the question of whether or not there was a great supply of water available. The question "Why don't you always buy the cheapest product?" was more effective in prompting students to consider the aspect of scarcity of resources in their reasoning. It seems that while the economic notion of demand can be associated with the first critical aspect, the notion of supply can be associated with the second critical aspect. At the same time, these economic concepts might need to be "unpacked" and related to social perspectives in order for students to understand how they are related to issues of choosing and prioritizing on personal as well as societal levels.

While it is the availability or scarcity of resources that is focused upon in the third conception, value is related to other, non-financial factors, in the most qualified, fourth, conception. This indicates that the fourth conception is closely related to the notion of opportunity cost as a "consequence of choice" in the way described by Davies (2011). Davies highlights the importance of investigating students' understanding of opportunity cost beyond a micro-level resource use. He also highlights the need for investigating students' understanding of economic concepts in general, rather than limiting investigations to the question of whether or not students can give the "correct answer" to a question. The results in this study further unfolds the concept of opportunity cost, by focusing on macro-level social and ecological costs that are the consequences of certain

financial choices. Understanding *value as including social and ecological costs* is therefore central in order to develop a more complex understanding of value. This way of reasoning about economic issues, relating them to a wider societal and citizenship responsibility context through the concept of value, could provide a way of understanding financial literacy as more than mere “money management”.

The results from this study suggest that teaching should focus on the fact that value is attributed and contextual, that resources are limited and that there are societal costs inherent to value. Personal finances, along with students’ interests and convictions can be related to concepts such as price, debt and risk to discuss topics such as wants, needs, rational choices along with exploitation of natural resources. The comparison between the colloquial understandings of value, along with price, and the economic definition of the concepts, could also be used in teaching to contrast the differences between what the same concepts can mean in different contexts. This study agrees with Berti (2016), Lefrançois et al. (2017), Retzmann & Seeber (2016) and several others that more research is needed concerning actual teaching initiatives and learning outcomes in relation to students’ ability to participate in economic life both as individuals and citizens (Lewis & Messy, 2012; Lusardi 2008; Lusardi & Mitchell, 2011, 2013).

6.1 Economics and financial literacy as part of citizenship education

A long line of studies discuss the increased importance of a widened understanding of economic and financial literacy teaching and learning, since individuals are not only dependent upon the financial system in order to take mortgages and save for their pensions, but are also participants of democratic societies with different degrees of shared assets (Davies, 2015; Henchoz, 2016; Lusardi, 2008). This study aims to add to this discussion by exploring a concept in the intersection between economic and financial understanding.

The integration of both economics and financial literacy into the social science subject, can be considered an attempt to bring the seemingly incompatible frameworks of economics and financial literacy education together (cf. Retzmann & Seeber, 2016) in order to elaborate students’ ability to make informed financial decisions to improve both their own and society’s well-being, as the OECD (2015, 2019) stipulates. However, this also presupposes that students develop a critical view in relation to financial and societal decisions and structures, as several critical voices suggest (Berti, 2016; Lefrançois et al., 2017). Thus, it is reasonable to suggest that both economics and financial literacy should be considered vital parts of a contemporary citizenship education (Björklund, 2021).

To elaborate students’ understanding and ability to make informed choices, it seems adequate that teaching follows the principles of the Beutelsbach consensus (Christensen & Grammes, 2020; Reinhardt, 2016). Here, economic and financial issues can be discussed as open questions where students can be introduced to different solutions to the same problem and students’ own interests, both as individuals and as citizens, can be

incorporated in discussions. There is also evidence that a citizenship education teaching approach to economic and financial issues can increase students' chances of learning (Björklund & Sandahl, 2021). From the results in this study, we suggest that teachers need to make students aware of certain facts that may seem obvious to someone already economic and financially literate. One salient example is that the most expensive good is not always the best or the most desirable - something that is necessary to understand when making one's own personal financial decisions. Another example is that value arises in relation to the lack of resources - something that is necessary to realize when discussing issues of fair distribution of resources. A third example is that there are always opportunity costs to consider in economic and financial decisions - a necessary insight when acting as an independent citizen with economic civic judgement.

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