

Chapter 9

Global Realities and Economic (Teacher) Education in the Twenty-First Century: A Conceptual Contribution

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This chapter examines how economic teacher education in South Africa and Germany must develop in terms of curriculum and pedagogy in order to address contemporary global challenges in multicultural contexts. The chapter focusses on economic teacher education but draws on economic content knowledge in higher education curricula, considering the two broad fields of microeconomics and macroeconomics, on which the discipline of economics is built. Drawing on the South African and German schooling contexts, the chapter presents an overview of the literature and theoretical constructs. It discusses the curriculum of economic teacher education and the role of the economics teacher. For this we use five contemporary discourses, focusing on money beyond fiat, pluralism in economic thinking, sustainability as thinking beyond economic growth, the intersectionality of migration, culturalization and 'glocalization', and digitalization in the economics classroom. The authors draw on current studies related to economic teacher education, contemporary discourses influencing 21st century economic teacher education content and context, and their own practice as teachers and researchers to argue for the importance of and need for reflective practice that is integrative and critical. This is to be achieved through curriculum development and differentiated teaching in South Africa and Germany's multicultural contexts.

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1 Economic education and its challenges

The year 2008 challenged the way economics is thought of as a discipline. The global economic downturn happened unexpectedly. Consequently, societies asked why economists could not predict this economic meltdown or mitigate its negative impact. In the same year, Nakamoto (2008) authored a white paper on the use of blockchain technology to create Bitcoin, now known as the world's leading digital currency. The years after this economic crisis saw the world questioning the relevance of economics as a discipline and the role played by leading economists in shaping the discipline, beyond thinking of economic growth as the ultimate goal of society. Both in the global north and the global south, the role of economists in policymaking is key in the development of economies and global society (Hirschman & Berman, 2014). With evidence of the poverty and inequality across the world, the dichotomy between the global north and south, especially in the wake of the crisis and the subsequent years of recovery, was brought to the fore. While the world has evolved since this crisis, the need to rethink the economics curriculum and how it is taught in schools and in universities, has not lost any topicality. Instead, the global pandemic has restated its importance.

The COVID-19 pandemic has strained a global economy that, after the 2008 economic crisis, is already delicate. With the global outlook pointing more to a recessionary trend according to the World Bank (2022), the discipline of economics has come into the limelight once again. These events have cast a completely different light on the years 2020 and 2021 than was anticipated. Fifteen months after the initial global lockdown, the need to engage what we teach in economics (the curriculum), how we teach it in the classroom, specifically in high schools (the pedagogy), and how we make the link with current national and global challenges (contemporary issues), has to be revisited if we take the future of economics education seriously.

The overarching question in this chapter is: how should economics teacher education be designed in terms of curriculum and pedagogy in order to address contemporary global challenges in multicultural contexts, beyond the pandemic, in a future of uncertainties? In answering this question, we examine economic teacher education from a conceptual perspective, drawing on the literature and bringing together different perspectives from the South African and German contexts. Through the lens of this literature and the authors' reflective practice as teachers and researchers in economic education, the chapter argues for an integrative and critical reflective practice in reconceptualizing the economics curriculum and how it is taught in the

classroom. The authors argue for rethinking and re-examining the economics content and how it is taught in a multicultural and diverse classroom. The next section starts with a review of the literature on the theoretical constructs of the economic curriculum and how it is taught in the classroom in both high school and the university contexts.

2 Teaching economics in Germany and South Africa

In this section, the authors examine the state of economic teacher education. They show the knowledge gap in the literature and argue for the need to re-examine how high school economics is taught in multicultural contexts, drawing on examples from Germany and South Africa.

2.1 The curriculum of economic teacher education

Economics is a social science that often assumes the ability of humans to make rational decisions. It seeks to understand how limited resources can be efficiently and effectively allocated amongst unlimited wants. In both the South African and German contexts of economic education, in high school and at university, two branches of economics taught in the curriculum are microeconomics and macroeconomics (Asarta & Méndez-Carbajo, 2020; Walstad, Rebeck & Butters, 2013; Walstad & Soper, 1988). Based on these two branches, the concepts of scarcity, choice and opportunity costs are foundational to the teaching of economics in pre-university and university contexts. These concepts are also referred to as threshold concepts, i.e., they are required for an understanding of economics as a discipline (Bolinger & Brown, 2015). A threshold concept such as opportunity costs “can be considered as akin to a portal, opening up a new and previously inaccessible way of thinking about something. It represents a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress” (Meyer & Land, 2003, p. 1). Such concepts are also central to the curriculum taught in high schools.

Weighting of curriculum	Topic
Macroeconomics (Weighting 25%)	Economics: basic concepts
	Basic economic problem
	Circular flow
	Quantitative elements
	Economic systems
	Business cycles
Microeconomics (Weighting 25%)	Dynamics of markets
	Public sector intervention and composition of the Republic of South Africa (RSA) economy
Economic pursuits (Weighting 25%)	Economic growth and development
	Money and banking
	Population and labor force
	Labor market
	Redress since 1994
Contemporary economic issues (Weighting 25%)	Unemployment
	Labor relations
	Globalization
	Inflation
	Tourism
	Poverty
	Other economic issues and quantitative elements of economics

Table 1 The curriculum for the subject of economics in South Africa (Department of Basic education, 2011, p. 8)

In South Africa, there is a standard curriculum for teaching economics at the High School level, which includes several economics topics, as mentioned above (see Table 1).

In comparison, there is no general curriculum for economics at the High School level in Germany. Economics is taught in various subjects and to different extents in the different federal states. For instance, in Baden-Württemberg, a state in the south-west of Germany, it is obligatory for school students to study economics and vocational orientation from grade 7 or 8 up to the 10th grade of high school (depending on the school track). The students who continue schooling until their school leaving certificate (i.e., Abitur) then have the option of choosing economics as a core subject in grades 11 and 12.

In addition to the curricula, the teaching contexts and the level of economic literacy differ. Salemi (2005) argued that students are considered to be economically literate “if they can apply basic economic concepts years later, in situations relevant to their lives and different from those encountered in the classroom” (p. 47). Drawing on the importance of economic literacy in international perspectives, Jappelli (2010) pointed to the large volume of evidence that “economic literacy differs widely across households and tends to be rather limited in the less educated, poorer demographic groups” (pp. F429–F430). In presenting the state of economic teaching in Germany, “economic content is currently not very well anchored in the curriculum” (Happ, Kato & Rüter, 2021, p. 49). In both South Africa and Germany, evidence from the literature showed that the student's previous economic knowledge has an effect on academic success (Fourie & Krugell, 2015; Happ et al., 2021). Economic literacy is depicted as a life skill, highlighting the need for teaching economics in schools and beyond. The teaching of the economics curriculum is very different to other social science subjects. Every economics teacher must have a good command of mathematics to teach the curriculum. Economics and mathematics go together, especially because mathematical operations are a significant tool in teaching and learning the subject. Economic models always present relationships and are often based on data which are represented as (presented in) graphs or diagrams (Ring & Brahm, 2020). To teach these, the teacher must be able to mathematically express the relationships between the dependent and independent variables. In addition to this, graphs are needed to illustrate these relationships for the learners to make connections between theory and reality (Ojo, 2016; Ojo, Booth & Woollacott, 2019; Ojo & Jeannin, 2016). Both in South Africa and Germany, the economics curriculum has been primarily taught through ‘talk and chalk’ (Becker, 1983a, 1983b, 2002; Siegfried & Fels, 1979). This has changed little in the 21st century (Becker & Watts, 2001; Onger, 2017). The authors acknowledge that the economics curriculum has been predominantly driven by a neoclassical perspective. While the authors take into account the dominant mode of teaching the economics curriculum and its mainstream neoclassical perspective, the need for curricular transformation and differentiated teaching through critical reflective practice is more relevant today than ever. The 2008 economic crisis sparked a debate over the discipline of economics and challenged the role of economists in society. As the 2020 global pandemic has exacerbated the decade's economic problems, other perspectives should be considered (Dequech, 2007), including plural economics (Davis, 2006). We will address these new(er) developments for economic education further (see section 3.2), but before this, the authors will address the role of the economics teacher and its importance.

2.2 The role of the economics teacher

Different conceptions emphasize the importance of the economics teachers' professional knowledge for successful student learning (Rassuli & Manzer, 2005; Sahlberg, 2010). In this context, Shulman (1986) developed a model which includes teachers' content knowledge (CK), a thorough understanding of economic theory, models, and methods; pedagogical content knowledge (PCK), knowledge of how to teach the economic content; and pedagogical knowledge (PK), knowledge about classroom management, student-teacher-interactions, and student learning in general. This model has been further developed in light of the digitalization of teaching and learning by Koehler, Mishra, and Cain (2013), who added the technology component in their so-called Technological Pedagogical and Content Knowledge (TPACK) model. We will focus on the CK and the PCK needed by economics teachers in this chapter (Koehler et al., 2013).

Although highly relevant, this emphasis on individual teachers' knowledge and competences falls short of recognizing the ongoing challenges in economic teacher education. Teachers should, of course, be professionals with regards to how they teach economics. Economics teachers should also develop competencies to reflect upon and shape the future curriculum of economic education (at schools and beyond). The notion of teachers as curriculum developers rather than as implementers of a given curriculum is also aligned with further developing teachers' professional autonomy (Lynch, McCormack & Hennessy, 2017). It also contributes to keeping up professional standards (ibid.): by contributing to curriculum development processes, teachers also further develop their own competencies (Shawer, 2010). Lynch et al. (2017) argued that “teacher engagement in curriculum development can therefore be seen as fundamental to *inter alia*, the profession assuming collective responsibility for the development and maintenance of professional standards, the continued enhancement of a professional knowledge base, and the progression of student-centered learning” (2017, p. 446).

In the following section, we present and discuss major challenges in curriculum development facing economic teacher education globally, and specifically in Germany and South Africa.

3 Examining contemporary discourses in economic teacher education in the twenty-first century

This section discusses five contemporary discourses that, according to the authors, are influencing the content and context of economic teacher education in the 21st century, as well as how economics is taught. The authors argue that these five discourses were triggered by two events within the two decades of the 21st century: the 2008 global economic crisis and the 2020/21 coronavirus pandemic. The authors present these discourses as important conceptual ideas in re-examining and re-presenting the curriculum for economic teacher education and how it is taught.

3.1 Money beyond fiat: The emergence of digital currencies

Social interaction is crucial to production, consumption, and trade. Trade is about exchange and in this process money plays an important role. Money represents value and is the lifeblood of any economy. The varied forms of the lockdowns across the world has impacted global trade and slowed down global capital flows (OECD, 2020). At about the same time as the 2008 economic woes, Nakamoto's (2008) White Paper titled 'Bitcoin: A peer-to-peer electronic cash system' reshaped the world's understanding of money. The author argued for the use of Blockchain and Distributed Ledger Technology (DLT) to redefine money as value beyond fiat with the emergence and growth of digital currencies (cryptocurrencies). The cumulative market capitalization of cryptocurrencies was USD\$237.1 billion in 2019 (Statistica, 2020). Economics as a discipline cannot continue to ignore how such technology has redefined money as value. For example, Peneder (2022) argues that Bitcoin has redefined money as an example of a cryptocurrency. In his words, Bitcoin "constitutes a radical departure from the conventional institution of money, [a system] absent of any central organisation and exclusively based on rules such as those algorithms that define the maximum number of new coins to be issued per period and establish the first transaction in a new block" (p.188). Key stakeholders in the global banking system have claimed that central banks have to take digital currencies seriously (Bossone & Natarajan, 2020; Joshi & Joshi, 2020). The authors claim that Central Bank Digital Currency (CBDC) can disrupt the global financial system, yet with multiple benefits as "efficient trade, greater financial access for millions of people and a reduction in crime" (Joshi & Joshi, 2020, p. 1).

The adoption of digital currencies has heightened during the COVID-19 pandemic, with evidence showing that Mauritius, an African nation, is making bold plans for the

total adoption of digital currencies (De, 2020). The authors argue in this first contemporary discourse that economics as a discipline, and thus economic education, must adapt to the 21st century's current realities. As the 2008 economic downturn was happening and challenging the economics discipline (the curriculum, how it is taught and its relevance in the 21st century), blockchain technology was redefining money as a store of value, global trade and global financial flows. The discipline has to be aware of this development, as it challenges the way teachers have taught fiat money as a store of value in the economics curriculum. There is compelling evidence that Blockchain and Distributed Ledger Technology (DLT) was adopted during the COVID-19 pandemic in the global economy (Marbough et al., 2020; Peng, 2020). Economics as a discipline must take this disruption seriously. It will affect the development of economic teacher education in multicultural contexts, as well as how teachers teach learners in an uncertain future in which technology plays a significant role in changing global communities. It is important for economics teachers to have content knowledge regarding technology-based kinds of money. At the same time, it is important for them to be able to critically reflect on the challenges of the blockchain technology.

3.2 Pluralism in economic thinking

Beyond neoclassical economics, the authors argue for the inclusion of heterodox economic theories in the curriculum and in resource materials for teaching economics in high schools and at universities. This is a key element of the 'multiplicities of meanings' in revisiting economic (teacher) education. To define the subject matter of future economics teaching more precisely, the authors consider economics to be a social science characterized by a plurality of paradigms, explanatory approaches, and methods. In terms of future curriculum development, economics should still be regarded as the core discipline for the training of economics teachers. In addition to the neoclassical economic approach, which is referred to as "mainstream", other approaches—often referred to as heterodox in the Anglo-American discussion (Dow, 2008)—should also be discussed in curriculum development processes in order to include the entire spectrum of plurality in the economic reference discipline. After all, future economics teachers should be able to initiate educational processes among their students that allow them to analyze pressing social challenges and to generate ideas for solutions.

It is well-known that neoclassicism, with its equilibrium model, is considered the chief model of thought, which also predominates in economics textbooks at universities [cf. for a comprehensive analysis of German curricula, see van Treeck and Urban (2016)].

This approach is criticized in particular for its strict assumptions, such as the rational, benefit-maximizing behavior of the human being, the time-constant preferences, the dominance of seeing the economic system in equilibrium, the lack of consideration of information deficits (Hodgson, 2004). Within the neoclassically-oriented mainstream, an increasing plurality can be observed, for example, in behavioral or social science approaches. It is particularly noticeable that the academic discourse shows a growing plurality of theoretical references and methodological implementations, but that this development is taken into account little or not at all, especially in the basic (introductory) courses on economics (Denis, 2009). On the contrary, it appears that the education of economics students (and this includes future economics teachers), at least in the first semesters, involves a relatively clear canon of micro- and macroeconomic approaches (ibid.). As a result, the so-called heterodox schools of thought are often given little attention in the training of economics teachers.

3.3 Thinking beyond economic growth: sustainability and the SDGs

The authors contend that economic growth alone cannot adequately describe human prosperity, even though this has historically been the primary indicator of economic progress throughout the world. Beyond economic growth, the concept of sustainability is deemed critical for the discipline of economics and its curriculum. According to the United Nations' World Commission on Environment and Development (*WCED, or the Brundtland Commission*), sustainability development is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development (WCED), 1987, p. 24). This notion encompasses economic and social progress, recognizing the efficient use of natural resources, social justice, and the effective protection of the environment (Jucker, 2002). In the light of the north-south divide, the notions of equality and environmental protection are both of particular importance for the further development of economic education. Because of this, there is a need to incorporate sustainability into the economics curriculum and its teaching to make the discipline relevant (Venkatesan, 2021).

3.4 Migration, culturalization and 'glocalization'

The authors acknowledge the impact of migration on global economics. With restrictions on movement during the global lockdown, what impact does this have on the curriculum and how it is taught? In extending the pluralism argument, it is im-

portant to think of culture as an element of economic education (Jeannin & Ojo, 2021). The authors also highlight the importance of understanding diversity in multicultural teaching contexts as it relates to the teaching of the economics curriculum. Finally, there is a need to be 'locally relevant and responsible, yet globally responsive' with respect to the economics curriculum and how it is taught. In other words, it is important to be culturally relevant locally within the broader perspective of globalization. Culture shapes societies and invariably shapes the economy.

3.5 Digitalizing the economic classroom: what and how?

The COVID-19 pandemic presented an unprecedented situation for schooling worldwide. As of June 2020, UNESCO data claimed that in 144 countries, over one billion students studied at home instead of their usual classrooms in schools, training institutions and universities due to the global lockdown (UNESCO, 2020). Schooling, learning, and teaching have moved online with more use of Learning Management Systems (LMS). Although this chapter does not analyze how economic teacher education responds to this, the authors identify the pandemic as a significant disruptor, highlighting the importance of digitalizing the economics classroom.

Digitalization was a topic in economic education even before the global pandemic. Through the use of digitally supported simulations, learners were supported to further understand economic content and develop important skills (Engelhardt, Johnson & Meder, 2020). In general, digital media can have a positive effect on learners' performance, although this depends on the design and integration in the classroom (Herzig, 2014). This integration is again connected to the teachers' knowledge and skills (Köhler et al., 2008). Above all, it is important to make use of digital media's advantages, such as multimedia, interactivity and adaptivity (Ferrarini, 2017). As graphs and diagrams are crucial material for teaching economics (Ring & Brahm, 2020), digital versions of such representations can further enhance students' comprehension. Digital media can further enable students and teachers to produce diagrams and graphs. Here, the interactive component of a digital diagram comes into play (e.g., changing diagram types, more information to be accessed via hyperlinks).

4 The findings

Drawing on the literature, the reflective practice of the authors as economics teachers and researchers, and the contemporary discourses presented in the previous section, what ‘multiplicities of meanings’ can be deduced from this data as a conceptual frame? In this section, the authors seek to re-engage with what is taught in high school economics and how teachers should be educated to adequately teach it.

Based on the literature, five contemporary discourses were discussed as a basis for reflection for the future of economic education. The disruptions caused by the two global events within the past twenty years are significant. The first was the economic and financial crisis; and the current one, the COVID-19 pandemic, had a snowballing effect on the global economy. With the advent of technology, redefining how we think and trade money as value, two key meanings emerged: the first discusses the foundations for curriculum change and reforms, and the second addresses the pedagogy of the reformed curriculum. For the latter, the authors posit the importance of differentiated teaching. As Happ et al. (2021) noted: “teaching demands that teachers provide a standard of teaching that is appropriate to the [learners] and that picks up the students at their respective levels of knowledge” (p. 49).

The concept of economic growth as defined by growth in the gross domestic product (GDP) of a country is not sufficiently linked to the Sustainable Development Goals (SDGs). For economic growth to be inclusive and sustained, the way the economics discipline defines it and the way economics is taught in the curriculum both need a total overhaul. This will require engaging the foundations of the economic curriculum and rethinking economic theories and models (and the assumptions underlying them) as academic economists in higher education teaching and research (Brahm & Jenert, 2019). Furthermore, the way this reformed curriculum is taught, which is the second meaning of the authors' conceptualization in this chapter, will have to change, taking into consideration that economics is best taught and learned when the concepts are linked to the real world (Ojo et al., 2019).

In sum, critical reflection and discussion need to be implemented in the pedagogy of economic education. To support students in their reflection processes, in-depth reflection must form an integral part of the economics curriculum. Its importance should be emphasized by teacher educators, so that students dare to adopt different perspectives and ask critical questions (Hibbert, 2013). Thus, it is necessary to implement clear tasks and to support students in tackling them, since it is often unclear what teachers expect from their students in critical reflection (Dyment & O'Connell, 2011).

Finally, technology has had a significant impact on the global economy since 2008, including the current Central Bank Digital Currency (CBDC), which is disrupting the global financial system. The economics discipline must acknowledge that new thinking and a reformed curriculum are required for high school economic (teacher) education. This foregrounds economic literacy in high school, for university contexts and for life. In a similar vein, digitalization affected economic teaching even before the major school closings due to the pandemic. Accordingly, both the content and the pedagogy of economic education must be reconsidered to include the massive technological developments the world is currently witnessing.

5 Conclusion

Taking the ongoing societal challenges into account, economic teacher education is facing the need for curriculum change and differentiated teaching. Change is needed in at least two ways.

With regard to economic education, it is, first of all, necessary to design the curriculum in such a way that plural perspectives on the global economy and the UN's sustainable development imperatives are considered (see above). This includes the consideration and inclusion of resource materials that could be used in teaching this, and could be achieved by rethinking the threshold concepts earlier identified within the global economic realities of the 21st century. The authors argue for a curriculum reform that moves beyond and extends the economic theories and models put together in the previous century. Additionally, a specific course focusing on the current realities could be developed. A more effective way might be to discuss these questions with colleagues in higher education to make more teacher educators aware that the pluralistic approach is necessary from the perspective of economic education. Pluralistically oriented materials are available, for instance the "Economics Anti-Textbook" (Hill & Myatt, 2010).

However, such processes of change in the curriculum and the pedagogy are often connected with feelings of loss and discomfort among teachers (Handal & Herrington, 2003) and students. Research from other school subjects, such as Mathematics, has shown that a curriculum change process will not result in actual changes unless teachers' values and beliefs are considered (ibid.). In a similar vein, it is often stressed that for change to occur, those who are responsible for bringing about new initiatives, i.e., future economics teachers, should be involved in the development and implementation of the required changes. Consequently, economics teachers are seen as

important agents of change, who, in collaboration with the authorities and teacher educators, are co-constructing curriculum change (Fullan, 1993; Hargreaves & Goodson, 2006). From the author's point of view, it is important to already include a critical-reflective practice in initial teacher education. This critical-reflective practice is important for at least three reasons. Firstly, it allows in-depth discussions regarding the underlying assumptions in the discipline of economics, deepening the content knowledge of future teachers. Secondly, it addresses students' beliefs and values, which were shown to impact teachers' curriculum decisions and teaching approaches (Olafson & Schraw, 2006). Thirdly, it prepares teachers for their future role as agents of change in curriculum change processes (Fullan, 1993).

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