

# Conceptions of financial education for “consumers” and “citizens” and their implications for pedagogical action: a discussion

This pedagogical discussion reflects on desirable goals in financial education, financial training and evaluation. For this purpose and to discuss possible pedagogical actions, the author proposes a novel categorization of financial education conceptions, distinguishes between financial education and training from an educational-philosophical perspective, and presents teaching and learning foundations from a psychological perspective. The article concludes with reflection questions for practitioners.

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## From individual to social orientation

The author proposes a classification of conceptions of financial education and training along a continuum from rather individual-oriented to rather socially-oriented approaches, describing the characteristics and underlying values of each.



## Implications for pedagogical action

The article discusses possible pedagogical actions in financial education, supported by examples. It distinguishes between financial education and training, between learning theories and their corresponding pedagogical approaches, and between possible indicative goals in economics education.



## Desirable goals?

An illustration summarizes the author's arguments and provides guidance for selecting objectives, teaching and learning activities and measurement tools in financial education and training. Reflection questions help readers define desirable goals for educational and evaluation efforts.

Opinions expressed by the authors of studies do not necessarily reflect the official viewpoint of the Oesterreichische Nationalbank or the Eurosystem.

## Abstract

This article encourages reflection on desirable objectives and evaluation approaches in financial education. It proposes a novel categorization of financial education conceptions known in the international literature and analyzes the characteristics relevant for pedagogical action. I outline five exemplary groups along a continuum ranging from rather individual- to rather socially-oriented conceptions. Distinguishing between financial education and financial training from an educational-philosophical perspective, I argue that it is possible to place the presented conceptions within both the broader notion of financial education and the narrower notion of financial training. Furthermore, I present teaching and learning foundations from a psychological perspective, hypothesizing that an instructivist pedagogical approach is more likely to be used in rather individual-oriented conceptions and a constructivist pedagogical approach is more likely to be used in rather socially-oriented conceptions of financial education. An illustration assists the reader to select, and reflect on, educational and learning objectives, instructional strategies and the measurement of learning outcomes. The article concludes with six reflection questions for practitioners in financial education, financial training and evaluation research.

## Introduction

In the international literature, we encounter various conceptualizations of personal financial education, each with distinct interpretations that target different educational or learning objectives. In the introduction of the “International Handbook of Financial Literacy,” Aprea et al. (2016) state that different interpretations, and thus pedagogical actions, are linked to values that are ideally presented transparently and in a way that encourages discussion. Similarly, Biesta (2010) stresses that it is not enough to assess data and evidence in the field of educational evaluation, but that we need to deal with values as well. This article aims to follow this path and proposes a classification of conceptions of financial education along a continuum ranging from rather individual-oriented to rather socially-oriented conceptions. In doing so, I also encourage reflection on the values embedded in different notions. This proposal is largely in line with Aprea’s (2014) draft of a conceptualization of financial education grounded in educational theory.

Adopting a pedagogical lens, I will outline how personal financial education may be understood, identify central characteristics and discuss what implications the different interpretations have for pedagogical action. Accordingly, I approach the question of how to evaluate educational or learning outcomes of financial education and training efforts from a different angle: I am not asking what educational and training efforts are effective and how we can measure them. Rather, inspired by educational philosopher Gert Biesta (2006, 2010, 2013), I am asking what financial education and training efforts and evaluation objectives are *desirable*. When addressing the question of desirability, I will not provide recommendations or express preferences but let the readers answer the question themselves. Thereby, I aim to raise awareness among practitioners in financial education, training and evaluation research about the broad spectrum of possible educational and learning objectives and corresponding pedagogical actions. Furthermore, I aim to encourage reflection about Biesta’s (2010, p. 13) concern about evaluating educational outcomes and measures, i.e. “whether we are indeed measuring what we value, or whether we are just measuring what we can easily measure and thus end up valuing what we (can) measure.”

To this end, in the next section, I will distinguish between two positions at the end of the continuum from rather individual- to rather socially-oriented conceptions of personal financial education and training, and also give some examples of conceptions that lie in between. I will identify the characteristics associated with each one and offer some initial pedagogical considerations. In the following section, I will differentiate between “education” and “learning,” and thus between financial education and training. In

this context, I will highlight some aspects of the purpose of education following Biesta's (2010) thoughts about "good education" and how it is different from "learnification," and also reflect on teaching from an educational-philosophical perspective. This might help the reader to think about what the term "education" means, a term that is widely used in the international discourse but may have different connotations. In the third section, I will give a brief overview of learning theories and corresponding pedagogical approaches, covering some basics of learning and teaching from a learning and instructional psychological perspective. This is central to understanding how knowledge, skills, dispositions and behaviors, or "competences," can be learned and assessed, even though providing a comprehensive overview in a single section is not feasible. Moving on to the fourth section, I will connect my pedagogical considerations to the conceptions of financial education and training and explore further implications for pedagogical action. After pointing out the limitations of this pedagogical discussion, I will conclude with reflection questions for the reader.

## 1 Conceptions of financial education from a pedagogical perspective

"Education, be it in the form of schooling, workplace learning, vocational training or learning through life, is by its very nature a process with direction and purpose" (Biesta, 2010, p. 2). Accordingly, conceptions of personal financial education as used here are notions that pursue educational goals, such as actively managing life situations characterized by personal financial issues that affect the financial well-being of individuals, the economy or society. As educational efforts are directed at human beings, we might speak of persons who, as consumers, earners or citizens, should have certain knowledge, skills, dispositions, behaviors or "competences," and virtue that help them make informed decisions and critical judgements on issues related to personal finance.

Conceptions of financial education address people in varying roles. I will highlight three primary roles in advance, which will be pertinent to the pedagogical discussion further below. In the financial education literature, individuals are often addressed as (1) *consumers*, (2) *earners* or (3) *citizens* or *economic citizens*. *Consumers* are considered in different roles, depending on the market in which they operate: buyers, savers, investors, debtors and insurance holders (Retzmann and Seeber, 2016). Retzmann and Seeber (2016) also consider individuals in other life situations, such as renters, inheritors and owners. As (2) *earners*, many people see income as a central aspect of their financial decisions, especially regarding financial (in)security. Consequently, the focus is on income and the life situations associated with career choices, such as employee, freelancer, self-employed entrepreneur, producer, supplier and employer (Retzmann and Seeber, 2016). As members of a community, (3) *citizens* or *economic citizens* actively contribute to social and economic development. Hence, Retzmann and Seeber (2016) refer to roles such as taxpayers, voters and participants in voluntary and political functions. Arthur (2016) advocates politically and financially educated citizens who can develop effective and collective solutions to provide (financial) security for all.

Consequently, I refer to *rather individual-oriented conceptions* of financial education which address people as consumers and earners and to *rather socially-oriented conceptions* which additionally address people's role as citizens. I will begin with the narrower conceptions from an educational perspective and gradually build on these to end with the broadest ones. Considering Aprea's (2014) conceptualization, I organize financial education into *personal financial management* and *critical consumer education* within the realm of rather individual-oriented conceptions. Additionally, I suggest a further subgroup here, i.e., *personal financial management that takes into consideration social and structural conditions*. I put *financial education as part of a more comprehensive economic education* within the realm of rather socially-oriented conceptions. Here, I propose a separation of *financial education as part of a more comprehensive economic and political education*. I wish to emphasize that the conceptualizations presented cannot provide a complete picture but only serve as examples to underline the proposed categorization.

## 1.1 Rather individual-oriented conceptions

### 1.1.1 Personal financial management

Personal financial management is concerned with the financial decisions that people make in their personal lives (Aprea, 2014). The OECD<sup>1</sup>, the editors of the Routledge Handbook of Financial Literacy<sup>2</sup>, Lusardi and Mitchell (2014)<sup>3</sup>, and, apparently, also the European Commission<sup>4</sup> seem to be among the prominent proponents of this view. It focuses on individuals (human capital, consumers, investors) and the (informed, effective, sound) decisions they make with the aim of participating in economic life and achieving personal financial well-being. Financial well-being is often viewed as the ultimate goal. For instance, Brügger et al. (2017) describe it as an individual's perception of financial freedom, achieved through maintaining a desirable standard of living. A closer look at the concepts used to describe how to manage personal finances reveals that social aspects are rarely considered.

Individuals are often addressed as *consumers* and partly also as *earners*, which encompasses perspectives people take as, e.g., buyers, savers, investors, debtors, renters and employees. For pedagogical action, it seems relevant to focus on *learning content* that addresses financially shaped life situations from these perspectives. This includes topics such as earning and using money (consumption/saving) and increasing income (Retzmann and Seeber, 2016); planning and money management, saving and investing, credit and debt (Jump\$tart Coalition, 2007); relationships between risk, return and liquidity; present value and discounting (interest); relationships between saving, consumption and investing; opportunity costs of financial decisions; and inflation and the real value of an investment (Pang, 2010). Since the focus is on the financial well-being of the individual, individualized instruction that takes the needs of each student into account appears to be appropriate.

Achieving financial well-being requires not only knowledge of specific financial facts and concepts as described above but also skills (e.g. for decision-making), certain dispositions (e.g. attitudes, motivation, confidence) and corresponding behaviors. It is worth looking more closely at what the terms used in this context might mean as they give teachers and trainers various ideas about selecting and judging teaching and learning activities.

*Knowledge* and *skills* are inseparable: knowledge relies on skills (e.g. various thinking skills), and skills are necessary to turn knowledge into action (e.g. knowing how to use financial information to make informed financial decision in a certain situation). According to the OECD (2014), financial skills encompass generic cognitive processes such as accessing information, comparing, contrasting, extrapolating and evaluating within a financial context. They also include fundamental mathematical skills, like calculating percentages or converting currencies, and language skills, such as reading and interpreting advertisements and contractual texts.

<sup>1</sup> First definition of financial education from OECD (2005, p. 26): "Financial education is the process by which financial consumers/ investors improve their understanding of financial products and concepts and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being." Definition used in the PISA test in 2012: „Financial literacy is knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life.“ (OECD, 2014, p. 33). Current definition from OECD (2020, p. 3): "Financial literacy: a combination of financial awareness, knowledge, skills, attitudes and behaviors necessary to make sound financial decisions and ultimately achieve individual financial well-being."

<sup>2</sup> "We define financial literacy as a component of human capital that includes knowledge, skills, attitudes, and confidence related to financial decision-making" (Cude, 2022, p.5).

<sup>3</sup> [W]e focus on financial literacy, by which we mean people's ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions" (Lusardi and Mitchell, 2014, p. 6).

<sup>4</sup> "Financial education enables individuals to improve their understanding of financial products and concepts and develop the skills necessary to improve their financial literacy, i.e. to be aware of financial risks and opportunities and to make informed decisions in their choice of financial services." (Commission of the European Communities, 2007, p. 2).

*Dispositions*, such as attitudes, motivation and confidence, are needed to put skills into action. They “are not themselves skills, but they represent a readiness to employ such skills – and to employ them in a coordinated and cumulatively reinforcing fashion” (Lipman, 2003, p. 171). Whether and how certain dispositions can be fostered would require a more detailed examination of multifaceted pedagogical approaches such as experiential, service- and inquiry-based learning.

*Financial behavior* refers to the specific actions individuals take in life situations where they make decisions about, e.g., saving, borrowing and retirement planning. It concerns the extent to which individuals utilize or fail to utilize their knowledge and skills in particular situations. The latter can, for example, stem from a lack of knowledge and skills, from inert knowledge (Whitehead, 1929), certain personal dispositions or various other reasons resulting from situational and personal circumstances.

*Decision-making skills* have a particular role in personal financial education just as they do in economic education (Loerwald and Stemmann, 2016). Economics explores decision-making from the perspective of rationality and irrationality. While rational decision-making involves selecting the best possible alternative from the available options (Kirchgässner, 2008), behavioral economists question whether this is possible at all and instead concentrate on cognitive biases that can lead to irrational decisions (Loerwald and Stemmann, 2016). Antonietti et al. (2016) adopt a cognitive psychological perspective on effective financial decisions. They approach decision-making from the perspective of individuals’ thinking skills within the context of metacognition. Marchetti et al. (2016) investigated the influence of social norms on the development of individuals’ decision-making skills during childhood from a developmental psychological standpoint. All these different perspectives provide good guidance for pedagogical action, e.g., promoting decision-making skills through instructional strategies such as problem-based learning, case-based learning or decision science techniques.

### 1.1.2 Critical consumer education

Critical consumer education is concerned with the financial decisions that people make in their personal lives with a particular focus on their needs and consumption (Aprea, 2014). It encompasses the reflection of consumption decisions, the functions and interests of financial service providers as well as consumers’ rights and obligations. Aprea (2014) mentions Atkinson et al. (2007) and Rutledge (2010) as proponents of this position.

This approach has some particular implications for pedagogical considerations. At its center are consumers and their consumption choices, as well as their relationships with financial service providers, who offer, e.g., consumer credit. This makes the selection of learning content a fairly straightforward process. In addition, critical consumer education could also encompass selecting instructional strategies that facilitate reflective decision-making in purchasing situations. Such strategies might draw on findings from the field of behavioral finance and, as has been shown elsewhere (Kaczkó and Razen, 2022), embed economic experiments (e.g. on anchoring bias) in an experiential learning approach.

### 1.1.3 Personal financial management that takes into account social and structural conditions

Personal financial management that takes account of social and structural conditions addresses the financial decisions people make in their personal lives and reflects on access to financial products and services that suit their personal life circumstances. This idea is intertwined with the conception of financial capability according to Sherraden and Ansong (2016), who define financial capability as “an individual and structural idea that combines people’s *ability to act* with their *opportunity to act*.” Together, they “contribute to the freedom to pursue financial well-being and improved life chances” (Sherraden and Ansong, 2016, p. 86). While “the ability to act” is closely linked to the construct of financial literacy as personal financial management (Sherraden and Ansong, 2016), “the opportunity to act” complements it with the reflection about

dignified access to appropriate financial products and services. In less developed countries, for example, there are an estimated 2.5 billion people without a bank account (Chaia et al., 2012). Financial and government institutions set boundaries on the opportunities people have, for example for accessing banking services, the presence or absence of government-backed deposit insurance of bank savings and government-backed retirement accounts (Sherraden and Ansong, 2016).

Sherraden and Ansong's (2016) notion may be a response to Henchoz's (2016) critique of the term "financial literacy" as defined by the OECD (2005) (see "personal financial management"), which, she argues, reflects a tendency toward neoclassical economics. This definition explains individuals' socioeconomic situations, among other factors, by their actions aimed at maximizing their own utility and satisfaction ("homo oeconomicus"). Poverty and debt are understood as economic situations, or, more precisely, deficits to be corrected by financial education programs (Henchoz, 2016). Henchoz argues that if financial education programs are to fully empower people, they should not only disseminate information, direct instruction and advice, but also consider the social conditions in which this information is mobilized and translated into practice and well-being. For example, financial classes may even be harmful if they explain that savings accounts are optimal (Sherraden and Ansong, 2016). If people have little money to save and fees absorb their meager savings, this may lead to frustration (Sherraden and Ansong, 2016). In such cases, it would be appropriate to discuss whether there are low-cost savings accounts for more modest savings.

There is also another notion that brings social and structural conditions to the fore: financial vulnerability. At first glance, it seems to be the opposite of financial well-being. Voith and Mauser (2024, p. 3) clarify that there is no precise distinction: "[w]hile financial vulnerability and financial well-being both involve meeting financial obligations and achieving sustainable security, the critical distinction lies in financial well-being's inclusion of the ability to afford *wants*, whereas financial vulnerability focuses solely on sustainably meeting essential *needs*." They explain vulnerability as the likelihood of experiencing financial hardship which can affect anyone regardless of their living situation. Financial vulnerability depends not only on individuals' choices but also on structural social inequalities and circumstances beyond their control (Voith and Mauser, 2024).

Considering these characteristics for pedagogical action, we first note that those discussed in the context of personal financial management are also relevant here. Additionally, another aspect comes to the fore: the opportunity to act. Financially capable people need to understand and reflect on the structural opportunities and constraints that affect their finances and be empowered to find personalized solutions. This requires sensitivity from teachers and trainers, particularly an awareness of challenging or disadvantaged life circumstances and the potential personal vulnerabilities that come with them.

## 1.2 Rather socially-oriented conceptions

### 1.2.1 Financial education as part of a more comprehensive economic education

According to Aprea (2014), Remmele and Seeber (2016) represent the view that financial education should be considered as part of more comprehensive economic education. They point out that while the concept of financial literacy as defined by the OECD (2014) (see 1.1, "personal financial management") is designed to help individuals navigate an increasingly complex economic environment, it is a limited view from an educational perspective. They argue that, as schools have the educational mandate to prepare young people for their personal (and, depending on the school type, professional) lives and empower them as citizens to participate in society and social change, financial education should be considered in a broad context, i.e. not only from a personal perspective but also in the context of the economy as well as society as a whole. Accordingly, Retzmann and Seeber (2016, p. 10) state that financial education as part of economic education "should enable students to act responsibly, autonomously and appropriately in

[financially] shaped life situations.” Retzmann and Seeber (2016, p. 15) also define a financially educated person as somebody “who is willing and able to judge, decide and act autonomously (self-governing), appropriately and responsibly in accordance with [...] transferable competences in financially shaped life situations.”

Compared to the rather individual-oriented conceptions, Retzmann and Seeber’s (2016) explanation suggests that financial education has a broader focus. First, there is a societal perspective, and individuals are also referred to as *economic citizens* who make decisions, form judgments and act in a self-determined, appropriate and responsible manner. A person who acts responsibly and appropriately can also be considered a person that acts morally and ethically, which is a widely discussed ideal of an educated person. From this point of view, reasons and consequences of personal financial decisions, judgments and actions should also be reflected within the broader context of participation in society as a whole, of which economic life is a part.

Second, this conception addresses – beyond decision-making – the broader concept of *judgment*. Judgment “is the forming of opinions, estimates, or conclusions [...] that] includes such things as solving problems, making decisions, and learning new concepts” (Lipman, 2003, p. 210). Furthermore, judgments can also be the outcomes of deliberations, verdicts of trials, conclusive findings of investigative proceedings, solutions to actual or theoretical problems (Lipman, 2003). They result from inquiry, from “a self-corrective practice in which a subject matter is investigated with the aim of discovering or inventing ways of dealing with what is problematic” (Lipman, 2003, p. 184). This implies that beyond teaching and learning activities to promote decision-making, other strategies for facilitating judgements need to be considered.

Third, in the educational context, particularly in German-speaking countries, the term *competence* has become established as a comprehensive concept encompassing skills, motivational, volitional and social aspects, as well as responsible action and problem-solving in concrete situations (for a more detailed explanation, see Bader and Müller, 2002; Weinert, 2001). The discourse on competences might be seen as a contemporary understanding of education, at least in German-speaking countries. Consequently, it is not surprising that evaluation efforts, specifically “competence measurement,” have also become widespread. Therefore, Retzmann and Seeber’s (2016, p. 15) definition of financial competence should be interpreted within this context:

*„[T]he sum of an individual's cognitive judgment, decision-making and planning abilities, their practical and technical skills for implementing decisions and plans, including the use of electronic media, and their motivational, volitional and social disposition with regard to [various financial themes] for themselves, as a trustee for other people, and as a social or political representative for the general public, in efficiently and responsibly generating and implementing such assets to achieve the best possible effect on the short, medium and/or long-term well-being of the people concerned.“*

Accordingly, financial competence is a network of knowledge, skills, motivation, volition and social dispositions that enables people to responsibly apply their knowledge of and skills in personal finances in real contexts. Financial competences become visible through actions. They also encompass social dispositions and societal aspects, such as the role of individuals as political representatives. Moreover, the ultimate goal of financial competence extends beyond achieving personal well-being to include the well-being of all those affected by actions, decisions and judgments in financially shaped life situations. Accordingly, Retzmann and Seeber (2016) address competences resulting from financial education at three levels: individual judgment and decision-making, responsible relationships with others, and understanding the political order and the financial system as a whole. When considering the selection of appropriate teaching and learning activities, Retzmann and Seeber’s (2016) competence model may be used as a guide.

### 1.2.2 Financial education as part of a more comprehensive economic and political education

Other critics of a narrow understanding of financial literacy view financial education as an integral part of an even wider concept of education, namely economic and political education. For the purpose of this article, I will discuss four perspectives, of which Hippe and Davies are also mentioned in Aprea (2014). Hippe (2012) explores how basic economic and political concepts can be linked in a problem-oriented and integrative way to critically reflect on interdependencies between political and economic order. With regard to personal financial education, Hippe (2010) points out that no “education” is possible without a critical, scientific examination of the financial markets. He calls for critical financial education that encourages young citizens to develop a healthy mistrust of financial product providers.

Davies (2015) criticizes the prevailing individualistic view of financial literacy and proposes a comprehensive educational framework to enable young people to understand the financial world more broadly and to take on an active democratic role. This educational framework also provides good guidance for the selection and judgment of teaching and learning activities. Davies (2015) hypothesizes that if voters have a sufficient understanding of financial processes and incentives to put pressure on politicians, the latter are more likely to govern in the public interest.

Arthur (2016) argues for financial literacy education as public pedagogy which aims to uncover the constructed nature of financial insecurity. He wishes to educate justice-oriented citizens<sup>5</sup> who can work together to develop ethical and collective solutions to the unjust distribution of financial insecurity. Therefore, financial education is ideally complemented by political education (Arthur, 2016).

Remmele (2016, p. 53) offers another critical perspective: “Financial literacy education is less about helping to understand but rather about helping to become skeptical and to act in order to change the (social) frames of references and/or the rules of interaction.” He questions whether it is possible to fully comprehend market and money, addressing epistemic and non-epistemic forms of financial incomprehensibility. Consequently, Remmele explores various implications for the (non-)teachability of financial concepts. He emphasizes that financial education should not be limited to the perspective of private households. Instead, it should be considered within the context of democracy, and encourage skeptical and emancipatory thinking that could lead to political action (Remmele, 2006).

The rather socially-oriented conceptions of financial education presented in this subsection address individuals not only as *consumers* and *earners* but also as (economic) citizens such as taxpayers, voters and participants in voluntary and political functions. They may be both financially and politically educated citizens. They possess decision-making skills relevant for individual financial well-being and critical judgment skills regarding financially shaped life situations that also impact the well-being of others. This requires social skills, a caring attitude toward societal issues, the skills and dispositions to think critically and the cultivation of democratic values. These elements provide a solid starting point for selecting *instructional strategies*, such as inquiry-based instruction (e.g. Dewey, 2016; Garrison et al., 2000), community-of-inquiry as a method (e.g. Kaczko and Ostendorf, 2023; Lipman, 2003; Reznitskaya and Wilkinson, 2017) and critical pedagogy (Freire, 2005).

<sup>5</sup> “[I]f participatory citizens are organizing the food drive and personally responsible citizens are donating food, justice orientated citizens are asking why people are hungry and acting on what they discover.” (Westheimer and Kahn, 2004, p. 4)

### 1.3 Conceptions of financial education – first summary

Figure 1 summarizes the key characteristics of the conceptions of financial education relevant to further pedagogical discussion.

Figure 1

#### Rather individual- and rather socially-oriented conceptions of financial education



Source: own illustration.

Rather individual-oriented conceptions tend to focus on individuals as consumers and earners, emphasizing informed and partly reflective financial decisions related to personal financial management. They advocate that individuals should be enabled to participate in economic life and pursue individual financial well-being. In contrast, rather socially-oriented conceptions incorporate the role of (economic) citizens who “judge, decide and act autonomously [...], appropriately and responsibly” (Retzmann and Seeber, 2016, p. 15), so that they can participate in society as a whole (which includes economic life) and pursue well-being for all. To achieve this goal, it is not sufficient to make informed and reflective decisions solely for oneself; individuals should also be able to make critical judgements to navigate an increasingly complex economic, political and social environment. We see that there are no purely individual or social conceptions of financial education; rather, we are dealing with a range of different approaches combining elements from both orientations to varying degrees.

In the next section, I will introduce some pedagogical basics necessary for a further consideration of pedagogical action, starting with a differentiation between “education” and “learning.”

## 2 Education and learning – an educational-philosophical perspective

Before considering the fundamentals of learning and teaching from a psychological perspective, it is necessary to distinguish between two notions at another level, i.e. between education and learning. Biesta (2006, p. 15) states that

*“One of the most remarkable changes that has taken place in the theory and practice of education over the past two decades has been the rise of the concept of “learning” and the subsequent decline of the concept of “education.” Teaching has become redefined as supporting or facilitating learning, just as education is now often described as providing learning opportunities or learning experiences.”*

Biesta (2010) emphasizes two aspects of the *language of learning*, namely that learning is an individualistic concept that focuses on the individual's doing, and that it is a process term that focuses on activities, where the direction of the process is not necessarily considered, like in the term “lifelong learning.” Both aspects are inherently different from the concept of education, which implies a relationship between educators and people to be educated as well as the purpose of educational practices (Biesta, 2010).

Biesta (2010) proposes considering three composite functions of education when discussing its aims and ends, drawing on the educational and political tradition of the Enlightenment: qualification, socialization and subjectification. The *qualification function* involves the acquisition of knowledge, skills and dispositions that enable people to do something, such as making sound decisions about money management and borrowing, or something more general, such as an introduction to economic life. Great emphasis is placed on preparing young people and adults for working life, which also has an economic factor, namely securing the future workforce. Yet, the qualification function is also relevant for preparing people for their personal life and their role as citizens.

The *socialization function* of education refers to the way in which people become part of certain existing social, cultural and political systems, with all their desirable and undesirable aspects (Biesta, 2010). One example could be how schools address personal financial education issues – as part of regular classes or during school events – in the context of cultural norms, such as advocating thriftiness. The idea of acting responsibly in financially shaped life situations (see Retzmann and Seeber, 2016) is also related to the socialization function of education, which places financial education in the role of a producer of certain subjects, such as responsible citizens (cf Biesta, 2010, p. 23). More broadly, financial education can also be seen as a social practice, e.g. by embedding it in a national financial education strategy, i.e. as part of the political order.

In contrast to socialization, the *subjectification function* of education encompasses the process of becoming an autonomously and independently thinking and acting subject (Biesta, 2010). For Biesta (2010), this is an essential element of any “education.” Accordingly, education becomes uneducational when it loses sight of this function and concentrates solely on integrating newcomers into existing socio-cultural and political orders. Thus, teachers and trainers might want to consider how to address the question of human subjectivity, what it means to be human, to exist in a world of plurality and difference (in the Arendtian sense<sup>6</sup>), and what ways exist for a person to be different from existing social, cultural and political orders (Biesta, 2010). This raises the question of “what kind of opportunities for being and becoming the engagement with the field of [financial education] might offer” (Biesta, 2010, p. 25). Arthur (2006) might answer that financial education should shed light on the constructed nature of the concept of financial insecurity. Sherraden and Ansong (2016) might respond by raising issues of fairness and justice, such as enabling people to access appropriate financial products and services with dignity. These ideas might provide opportunities for the development of subjectivity and agency in a broader context of financial education.

Engaging in reflection and discussion on all three functions of education, including their synergies and conflicts, would help to identify educational rationales for financial education in different institutional contexts. This brings me to the final thoughts I would like to share about teaching, before approximating financial education and training from a learning and instructional psychological perspective. For Biesta (2013), it is important that teachers are aware of the need to constantly make situated judgments (in concrete situations with concrete students) about what is educationally desirable in relation to, and by balancing, the three functions of education. These judgments are wise educational judgments that are value judgments, not technical ones. Empirical evidence about what financial education interventions have worked well in the past may inform judgments in present situations, but such evidence cannot replace judgments about what needs to be done (cf Biesta, 2013, p. 131). It implies that teaching is an art rather

<sup>6</sup> A responsibility for plurality and difference is the condition of human freedom and action (Biesta, 2010). Biesta (2010) proposes a pedagogy of interruption that could open up spaces in which it is possible to engage with the complexity of a world populated by humans who are different, and in which subjects develop not just a representative voice but a unique one. In this sense, a pedagogy of interruption is orientated toward human freedom, which is always linked to the freedom of others.

than a science. Biesta (2013) uses the word “virtuosity” to emphasize that teaching is practical wisdom that demands a certain excellence, and not just an activity in which you apply a set of skills and dispositions or competences. To summarize: “Teaching is not a matter of following recipes but ultimately requires teachers who are able to make wise situated judgments about what is educationally desirable” (Biesta, 2013, p. 140).

Against this background, I suggest using the term *financial training* when financial education efforts do not encompass the educational relationships and purposes described in this section. *Financial training* emphasizes learning and the function of qualification in education, i.e. the acquisition of knowledge, skills, dispositions and behaviors or competences.

### 3 Learning paradigms and pedagogical approaches – a psychological perspective

Learning and teaching are closely related, but they cannot be equated. When a teacher or trainer designs and delivers a lesson on the opportunity costs of financial decisions, it does not mean that students will learn what is taught. Students learn for themselves; teachers and trainers can at most intend to teach (Terhart, 2005). It is also possible that learners acquire new knowledge and skills autonomously, without external support. Therefore, it makes sense to clarify how established theories explain learning and what implications these explanations have for teaching.

Firstly, it is important to emphasize that none of the extant theories comprehensively elucidate the phenomenon of learning; rather, they each address specific facets (Fürstenau, 2016). What they have in common, however, is that they all agree that *learning is a permanent change* in knowledge or behavior based on experience (Mayer, 2008). The change (or potential for change) can be cognitive, affective or psychomotor and may not be immediately apparent. The different theories, which can be grouped into three learning paradigms<sup>7</sup>, offer different explanations for the transition from initial to final behavior: (1) *behaviorism* posits that learning is a change in behavior through reinforcement, (2) *cognitivism* views learning as a mental process involving information processing or the processes of assimilation and accommodation, and (3) *constructivism* interprets learning as a mental process of knowledge construction.

#### 3.1 Learning paradigms

##### 3.1.1 Behaviorism

Behaviorist (or conditioning) theories of learning dominated the first half of the 20th century and gained new prominence with the proliferation of digital media in various learning environments. Well-known names include Pavlov, Watson and Skinner, who, despite differences in their theories, share the view that learning is a “process of forming associations between stimuli and responses” (Schunk, 2009, p. 74). Behaviorists regard the brain as a black box, disregarding mental processes such as meaning, volition and motivation as reasons for action and self-reflection during learning, and instead concentrating on conditioning behavior (Schunk, 2009). Skinner’s operant conditioning involves presenting stimuli that are reinforced – through rewards or punishments – to increase the likelihood of the desired behavior occurring.

Learning through stimulation and response has several implications for teaching. The teacher or instruction designer focuses on stimulation and reinforcement. They formulate learning outcomes (desired behavior and its demonstration), such as learners being able to distinguish between fixed and variable costs in monthly bank statements and allocate their expenditure accordingly. Lessons are organized in small steps; for example, the teacher introduces fixed costs through direct instruction, followed by exercises that learners complete and for which they receive immediate feedback from the teacher (or learning

<sup>7</sup> A learning paradigm is a particular worldview about the explanation of learning shared by a group of scientists.

program). When learners complete a sequence, the next step follows similarly until all sequences have been actively completed (“teaching to the test”). Successful steps are rewarded; a typical example from e-learning is the provision of badges that learners can collect for completed tasks.

According to behaviorism, the achievement of learning objectives should be explicitly observable. For instance, knowledge, comprehension and application are tested by asking learners to solve familiar problems, e.g. through multiple-choice questions with objective answers. Behavioral approaches are, for example, well suited for novices (e.g. learning the multiplier table) and for the development of procedural skills (e.g. the procedural sequence of taking x-rays of patients) (Larson and Lockee, 2014).

In summary, behavioral learning theories view learners as passive beings who can be controlled and manipulated. Teachers (and learning programs) provide stimuli, break the lesson down into small steps, reinforce learning progress with rewards, and monitor the entire learning process.

### 3.1.2 Cognitivism

In the late 1960s, cognitivist learning theories emerged, focusing on the mental processes of perception, imagination, thought, judgment and language, i.e. the processes by which an organism acquires knowledge and skills about its environment and/or changes its behavior (Shuell, 1986). In the following, I will highlight some key aspects of various cognitive learning theories.

Cognitive information processing theories regard our brain as an information-processing instrument. “Learning, or encoding, occurs when information is stored in long-term memory” (Shunk, 2009, p. 181). One of the best-known models is the multistore model by Atkinson and Shiffrin (1968), which describes three stages of information processing: the sensory register, working memory, and long-term memory. The more frequently information is repeated in working memory (“rehearsal”), the more likely it is to be stored in long-term memory. Other scientists (e.g. Markovitsch, 1996; Roth, 2001) distinguish between different functions within working and long-term memory.

We change not only when we learn something new but also through biological development. Developmental psychological theories explain the evolution of thinking, acting and feeling throughout a person’s life through an interplay of maturation, socialization and learning (Jank and Meyer, 2002). One of the most prominent theories comes from Jean Piaget. He explains learning as the active engagement of the individual with the environment in a given situation, where they actively influence the environment through their actions according to their development level (Jank and Meyer, 2002). Learning is therefore a process of assimilation (the child adapts what is new in its environment to their cognitive schema) and accommodation (the child adapts their mental representations to the demands of reality). Both processes together change the child’s cognitive structures, which is understood as learning. They interact with further cognitive processes which together lead to an increasingly complex differentiation of cognitive structures. Cognitive conflicts manifest themselves in the occurrence of errors when learners actively engage with learning content (Jank and Meyer, 2002).

Anderson and Krathwohl’s (2001) taxonomy of learning objectives aids in the formulation of cognitivist learning outcomes. In addition to the cognitive dimensions formulated by Bloom et al. (1956), which they reformulate as verbs (remember, understand, apply, analyze, evaluate and create), the authors distinguish between four dimensions of knowledge: factual, conceptual, procedural and metacognitive knowledge. For instance, it is conceptual knowledge when students comprehend the relationships between saving, consumption and investment, and it is procedural knowledge when pupils develop personal strategies for managing money.

In the literature about instructional design, there is abundant practical advice on how different cognitive and knowledge dimensions may be addressed with teaching and learning activities. Here, I will provide some general considerations from a cognitivist point of view. For factual and conceptual knowledge,

students may learn from concrete experiences; teachers may induce cognitive dissonance, present new information alternately with familiar content to foster a network of associations, or provide multisensory input linking new information with small exercises and allow it to circulate in working memory (cf Jank and Meyer, 2002). For procedural knowledge, such as developing a strategy, learners may be introduced to concrete problem-solving and decision-making strategies and tools that enable them to process their solutions using established procedures for managing their finances. Teachers may assess learning outcomes through presentations, assignments or exams, where acquired knowledge must be presented or applied. Similar to behaviorist theories, cognitivist theories suggest that students' performance be evaluated according to objective criteria.

In summary, cognitivist theories of learning regard learners as active, processing beings who actively engage with their environment. Prior knowledge, i.e. cognitive structures, is crucial for learning. Mistakes are considered beneficial to learning and are therefore allowed during the learning process. Teachers are providers of ready-made knowledge, pay attention to the knowledge structure and the active (cognitive) role of the learner, and design learner-centered lessons. They deliberately disturb the cognitive equilibrium of the learners, i.e. they generate curiosity.

### 3.1.3 Constructivism

Constructivism has been increasingly applied to learning and teaching in recent years. The construct of "competence" is also constructivist in nature, indicating that this theoretical (more precisely, epistemological) approach has become established in educational policy measures, at least in German-speaking countries. Constructivist learning theories are inherently cognitive; however, they stress the "construction" of knowledge and beliefs (Shunk, 2009). They are based on various theoretical contexts, including radical constructivism, the neurobiology of cognition, systems theories and cognitive psychological concepts of learning (Terhart, 2005).

The basic epistemological assumptions come from radical constructivism (e.g. Foerster, 1985; Glasersfeld, 1996). Reality itself is inaccessible; everything we know about reality is an individual construction and is bound to the observer's perspective (Terhart, 2005). This constructed knowledge must be useful or viable in a particular context. Knowledge is not "transferable," has no definite beginning and end, but is a provisional state (Terhart, 2005). Neurobiological studies provide another basic assumption. They show that the sensory organs do not convey a pure image of the outside world. Distorted and incomplete information reaches the brain, which determines this information based on its structure, thereby creating its reality (Terhart, 2005).

Social-constructivist theories of learning, originating from John Dewey's pragmatism and Lev Vygotsky's socio-cultural theory, posit that knowledge is collaboratively developed, exchanged, and negotiated by individuals within the context of social transactions. Consequently, individuals' thoughts and actions can only be understood within a specific social context. Learning is situated, i.e. it is bound to the context and social experiences in the learning situation (Bendorf, 2016). These learning theories are frequently discussed in the literature in relation to promoting critical thinking (cf Volman and Ten Dam, 2015).

In recent decades, a moderate constructivist view has become predominant (Dubs, 2014). Reinmann and Mandl (2006) prefer the term "knowledge-based" constructivism, as it emphasizes the role of a sufficient knowledge base that enables learners to construct meanings for themselves. This practice-oriented position includes instructivist support to help learners develop a knowledge base to deal autonomously and collaboratively with problems, dilemmas, etc. (Kaminski, 2017).

Constructivist theories of learning have particular implications for teaching and learning. They assert, for instance, that it is not possible to transmit ready-made knowledge. Instead, learners acquire knowledge by themselves, thus they are the protagonists of the learning process. Teachers act as learning guides

and mentors, engaging in dialog with learners (discussing errors, contradictions, questioning truths), and encouraging independence and initiative. They design learning environments and create active learning situations where authentic and complex learning activities are offered and the learners' perspectives are considered (Riedl and Schelten, 2013). Additionally, learning content is ideally presented in different contexts and viewed from varying perspectives. There is also an emphasis on the social context, including communication processes and collaborative and cooperative learning opportunities (Riedl and Schelten, 2013).

In this sense, *learning objectives* often target higher stages of Bloom's taxonomy of learning, i.e. analysis, synthesis, evaluation that builds on lower stages, i.e. knowledge, comprehension and application (moderate constructivism). A relevant example from financial education would be for students to understand the reasons for high inflation and to reflect on and discuss its consequences for individuals and society. Constructivist *teaching and learning activities* are linked to self-regulated and collaborative learning. Teachers and trainers may employ various forms of problem-based learning, such as case-based learning, scenario-based learning, project-based learning, simulations (e.g. simulation games) and role-playing. They may also consider different types of dialog, debate and discussion (e.g. discussions of articles) and self-reflection on experiences, e.g. through journals.

According to Reinmann and Mandl (2006), *assessment* has a different weight in constructivist learning environments. Comparative assessments of learning success, predictions of learning outcomes and the creation of rankings among learners are not considered relevant. Formative assessment plays a central role, i.e. providing feedback to learners on the progress of their learning process and indicating necessary corrections, assistance or support measures (Reinmann and Mandl, 2006). Summative constructivist assessment tasks largely do not measure objective learning goals. Based on predetermined criteria, the performance (also in terms of "competences") is evaluated through observing complex activities such as project work, case studies, journals, peer assessments, essays, reflective papers, discussion contributions and presentations. This requires teachers to have appropriate skills and pay particular attention to quality criteria in diagnosis and assessment (Euler and Hahn, 2007).

To summarize, constructivist learning theories view learners as active agents and protagonists in the learning process. Learning is an autonomous and/or collaborative process of exploration where learners acquire knowledge based on prior knowledge through internal inquiry. This kind of learning is context-dependent and influenced by the situations in which it takes place. Teachers design learning environments and act as counsellors and guides. They engage in discussions about errors and contradictions and question what is taken for granted.

### 3.2 Pedagogical approaches

The notion of a "pedagogical approach" is used in different ways in the literature, often interchangeably with "instructional approach" or "instructional strategy." In this context, I will use the term at a meta level, as Larson and Lockee (2014) do, i.e. as an overarching direction for teaching. I distinguish "pedagogical approach" from "instructional strategy," which Reigeluth and Keller (2009) use to describe macro teaching strategies such as problem-based learning, inquiry-based learning, direct instruction, project-based learning, anchored instruction and role-play.

In scientific discourse, two pedagogical approaches have emerged that, despite being controversially discussed, provide a useful initial orientation: the instructivist pedagogical approach (objectivist paradigm) and the constructivist pedagogical approach (subjectivist paradigm) (Dubs, 2017).

The *instructivist pedagogical approach* encompasses behaviorist and cognitivist perceptions of knowledge, which is objective, assuming that it can be effectively and efficiently transmitted to learners (Dubs, 2014; Larson and Lockee, 2014). Instructors present learning content, monitor and guide learning activities, and

provide regular feedback on learners' performance (Larson and Lockee, 2014). Learners are assessed based on their performance against specified outcomes and objectives.

In contrast, the *constructivist pedagogical approach* assumes that knowledge is subjective, individually and socially constructed, and therefore interpreted differently by each person (Dubs, 2014; Larson and Lockee, 2014). Teachers create authentic experiences and set learning objectives aimed at constructing knowledge (or material objects), either individually or in groups. Students benefit from feedback from teachers, peers and even professionals.

At this point, it is also worth emphasizing some of Dubs' considerations on the teaching of economics, which might well align with the positioning of the two pedagogical approaches. Dubs (2014) draws attention to potential indicative objectives in economics education, encompassing design ideas and normative principles that also provide guidance in financial education. He distinguishes between three design ideas in economics: scientific-exemplary, economic-geographical and economic-civic. I will omit the economic-geographical design idea here as it relates to a specific subject area within geography.

According to the *scientific-exemplary design idea*, learners should be introduced to scientific paradigms and working methods of economics to develop a fundamental understanding. Learners study typical concepts in-depth, such as price formation in different markets. This design idea does not require comprehensive orientation knowledge ("exemplary") and remains value-neutral, as it is based on economic model assumptions<sup>8</sup> (Dubs, 2014). Using a value-neutral idea in teaching typical economic concepts may suggest an instructivist pedagogical approach where knowledge is transmitted and assessed objectively.

In contrast, the *economic-civic design idea* addresses economic issues relevant to individuals as consumers, earners and citizens, and is therefore inherently normative. The primary focus is on fostering a general understanding of economics and society, enabling individuals to navigate the increasingly complex dynamics of the economic and social environment in a self-determined and responsible manner (Dubs, 2014). A normative approach to fostering a general (and critical) understanding of economics and society might suggest a constructivist pedagogical approach where individuals construct their knowledge autonomously and collaboratively, allowing for normative considerations.

It is important to note that there is no best pedagogical approach or instructional strategy. This is one of the few findings from research into teaching methods that can be considered certain (Terhart, 2005). Pure direct instruction, an instructivist strategy, often leads to inert knowledge (Renkl, 1998), but when applied correctly, it can be effective for learning (Pauli, 2006). Similarly, a radical constructivist strategy can lead to little learning without self-directed and collaborative learning skills (Dubs, 2014). Or, as Biesta (2010, p. 4) points out:

*"In some cases students may benefit from interaction, talk, activity, for example if the aim for students is to test their understanding by explaining their views to fellow students. But in other cases, the collaborative classroom would actually hinder learning, for example, when the aim is the mastery of a complex skill – something that may require concentration and perseverance, rather than discussion and collaboration. Whether collaborative forms of student activity are to be preferred therefore entirely depends on the purpose of the activity, that is, on the outcomes that are considered to be educationally desirable. It is only when we are able to say something about the latter question that we can begin to make decisions about how we might want to achieve what is aimed for."*

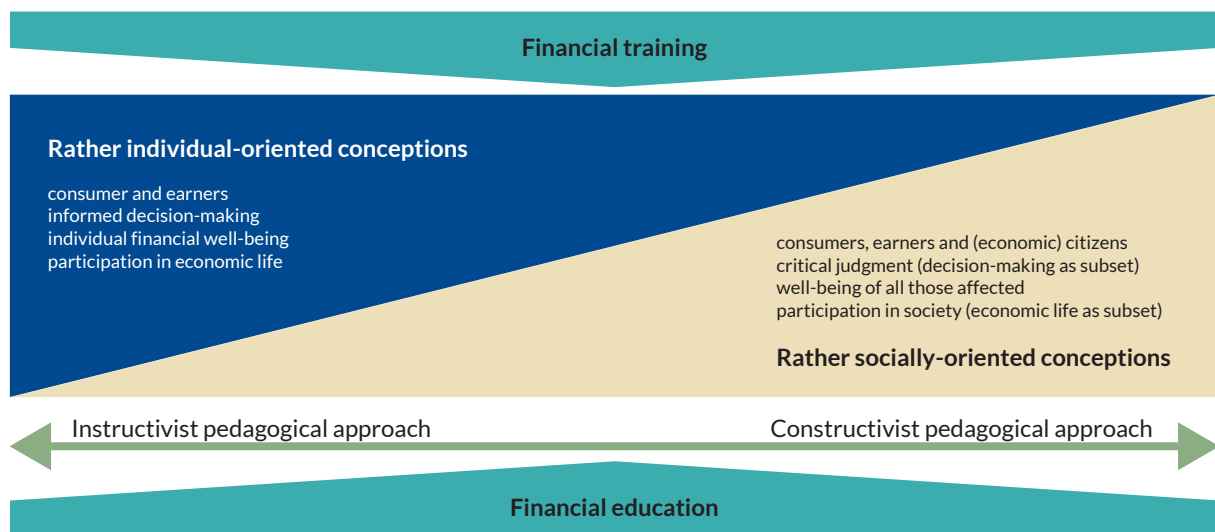
<sup>8</sup> However, I question whether economic models are value-neutral, given the different schools of economic thought (Keynes, Hajek, etc.).

## 4 Conceptions of financial education and their implications for pedagogical action

In this chapter, I will conflate the conceptions of financial education as delineated in section 1 with the pedagogical basics I outlined in sections 2 and 3 and summarize them in figure 2. I provide this illustration as a map that may help practitioners select, and reflect on, specific objectives in financial education and training, choose appropriate teaching and learning activities, and to consider how learning outcomes might be measured.

Figure 2

### Conceptions of financial education and training from a pedagogical perspective



Source: own illustration.

In figure 2, I put the key characteristics of the conceptions of financial education (shown in figure 1) in relation to financial education and financial training to illustrate the difference between the two notions as outlined in section 2. I argue that it is possible to place both rather individual and rather socially-oriented conceptions within the broader notion of financial education and the narrower notion of financial training. In practice, this is often an unconscious process that also has to do with beliefs and personal values. However, even if teachers focus on qualification, they may still influence (consciously or unconsciously) the socialization and even the subjectification of their students. It is possible that even if teachers consciously prioritize financial training to teach young people certain skills, they can still achieve educational effects. Similarly, the reverse is also possible. My intention in differentiating is to draw attention to the differences and to enable the reader to consciously choose, judge and transparently address these differences in pedagogical action and in evaluation endeavors.

Furthermore, I have added another continuum of pedagogical approaches. I hypothesize that there is a relationship between first, the type of educational outcome that emerges from financial education and training activities, second, the conscious or unconscious choice of learning theory approaches, third, correspondingly chosen instructional strategies and fourth, certain types of financial education conceptions. Accordingly, an instructivist pedagogical approach is more likely to be used in rather individual-oriented conceptions and a constructivist pedagogical approach is more likely to be used in rather socially-oriented conceptions. This seems to be a rather loose relationship that would be worth exploring in more depth in future empirical work. In the following subsections, I will present examples for each end of this continuum that serve to illustrate my arguments.

#### 4.1 An instructivist pedagogical approach and rather individual-oriented conceptions

Rather individual-oriented conceptions of financial education focus on enabling individuals as consumers and earners to make informed decisions to achieve individual financial well-being. For example, it benefits consumers and earners to comprehend how inflation affects their purchasing power, the value of money in their current and savings accounts, their investments, and their income. Similarly, for savers and investors, it is useful to understand the relationship between return, risk and liquidity in various forms of investment (e.g. bonds, shares, funds, ETFs) to make better choices.

Following an instructivist pedagogical approach, teachers and trainers will focus on learning objectives such as understanding and applying the learning content. They might employ direct instruction, e.g. starting with theoretical input on the development and calculation of the inflation rate, current interest rates on savings and loans. They might combine theoretical input with exercises in individual or partner work so that students learn to correctly apply the concepts presented, such as calculating personal purchasing power in comparison with previous years and calculating real interest rates. Teachers and trainers might use learning materials based on scientifically validated literature and official sources, such as inflation rates calculated by national statistical offices. For the final assessment of learners' performances (e.g. in the form of single- or multiple-choice or true/false questions), instructors prepare assignments with a single correct solution that can be objectively assessed, such as calculating the real value of savings given a savings amount, annual interest, fees and the inflation rate.

Lusardi's (2011) "big five" items for measuring financial literacy include true/false and multiple-choice questions on compound interest, inflation, risk diversification, bond prices and mortgages. To enable people to answer these questions, it is sufficient to appropriately apply instructivist (behaviorist and cognitivist) instructional strategies so learners can thoroughly internalize these concepts.

#### 4.2 A constructivist pedagogical approach and rather socially-oriented conceptions

Rather socially-oriented conceptions of financial education address individuals not only as consumers and earners but also as (economic) citizens who should be enabled to make informed decisions and critical judgements about finances. These decisions aim to achieve personal financial well-being and contribute to the well-being of others, ensuring everyone can participate in society. This approach places the examples described above in a new, i.e. normative, context that points to the need to apply a constructivist pedagogical approach.

In doing so, teachers and trainers may focus on critical judgment about the learning content. Learners might examine the issue of price stability (inflation/deflation) within a broader societal context. Teaching and learning activities might address the various causes of inflation and deflation and their economic and social consequences, such as extreme cases like the hyperinflation after World War I and the deflation during the Great Depression starting in 1929, which led to considerable poverty and suffering among the population and ultimately provided fertile ground for authoritarian regimes like National Socialism. In addition, central banks' and governments' monetary and fiscal policies could be compared across countries and critically evaluated. Promoting deeper understanding, accompanied by critical judgment and ethical considerations, can be beneficial for people's participation in society, e.g. in the role of informed voters.

In the context of saving and investment decisions, aspects such as the Sustainable Development Goals of the United Nations' 2030 Agenda might be considered. Teachers and learners might discuss relevant social, environmental and economic factors that need to be taken into account when making saving and investment decisions, and how these decisions might affect people's personal finances and society as a whole. Unlike with direct instruction, learning takes place in a dialog and might include the development of critical judgment skills that go beyond informed decision-making.

As briefly outlined in section 3.1, the assessment of student performance (e.g. competences) requires complex assessment settings that enable the observation of students' performance. It requires assessment tools that consider quality standards, as assessment criteria are "constructed" and therefore cannot be objective. For instance, the Argumentation Rating Tool by Reznitskaya and Wilkinson (2017) is an example of a scientifically evaluated instrument for assessing argumentation skills in face-to-face dialog settings.

## 5 Limitations

This article is a theoretical discussion based on selected literature and is limited to my interpretations. It is not an empirical study, such as an analysis of the international discourse on financial education and training. I take an educational perspective when interpreting the differentiation of conceptions rather than an evaluation research or economic perspective. I have endeavored to present my arguments as transparently as possible, offering them for discussion among professionals. To effectively convey the core ideas of the article, I have focused on the basic aspects when explaining the conceptions of financial education and pedagogical foundations. Consequently, some explanations may appear somewhat simplistic.

## 6 Summary and concluding remarks

In this article, I have attempted to elucidate the distinction between conceptions of financial education based on characteristics pertinent to pedagogical considerations. I proposed situating these conceptions on a continuum from rather individual-oriented to rather socially-oriented conceptions (figure 1). I delineated three conceptions for the former and two for the latter, building on Aprea's (2014) conceptualization grounded in educational theory. After discussing the differences between education and learning and presenting the three learning paradigms and two corresponding pedagogical approaches, I linked them to the conceptions of financial education. I hypothesized that there is a relationship between first, the kinds of educational outcomes of financial education and training activities, second, the conscious or unconscious choice of learning theory approaches, third, correspondingly chosen instructional strategies, and fourth, particular types of financial education conceptions.

Figure 2 summarizes my arguments, providing guidance in selecting, and reflecting on, specific objectives in financial education and training, choosing appropriate teaching and learning activities and considering how learning outcomes may be measured. Returning to the guiding question –what financial education and training endeavors and evaluation goals are *desirable* – I offer six reflection questions to assist readers in finding their own answers:

- **Q1:** What have been your beliefs about personal financial education?
- **Q2:** For those engaged in financial education and/or training: where would you place your activities in figure 2?
- **Q3:** Where would you place a desirable engagement in financial education and/or training in figure 2? Does your answer differ from the answer to Q2?
- **Q4:** What are the organizational conditions under which you engage in financial education and/or training, and which approaches are conceivable and feasible? And why?
- **Q5:** For those engaged in evaluation research in context of financial education and/or training: what have you measured so far? Why have you focused on this?
- **Q6:** For those engaged in evaluation research: what would be desirable to measure if it were possible? Does your answer differ from the answer to Q5?

Lucey (2016) highlights that pre-service teachers' beliefs about personal finance – which can be both critical and uncritical of established views in financial education – affect what and how they teach. He calls for more research on the choice of educational content and instructional strategies related to personal finance and advocates more alternative approaches and respect for different beliefs. I hope my discussion will contribute to considering alternative approaches to teaching and evaluating personal finances – not just for pre-service teachers but for all who are engaged in financial education and training.

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