International Journal for Research in Vocational Education and Training (IJRVET)
2025, Vol. 12, Issue 3, 360–382
https://doi.org/10.13152/IJRVET.12.3.3

Exploring the Didactic Principles of Vocational Teachers in Financial Education: An Interview Study

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Received: 25 July 2024, Accepted: 17 February 2025

Abstract

Context: Financial literacy is an issue becoming increasingly important internationally. Many countries have already implemented a national strategy to improve the financial literacy of the people. In Austria, a national strategy for financial literacy and financial education was developed in 2021. One target group of this strategy are students of part-time vocational schools. These students work in a company and already earn their own money. They have to attend part-time vocational school alongside their work. The curriculum of these schools includes financial topics. Studies on teachers' views of financial literacy show that they mostly reduce it to personal money management. However, little is known about their underlying principles for teaching topics in the field of financial literacy. Therefore, this paper answers the following research questions: Which didactic principles are relevant for teachers of part-time vocational schools in Austria in financial education? Why are some didactic principles perceived as more relevant and why are others perceived as less relevant by the teachers?

Approach: To address this research gap, an interview study was conducted with teachers from part-time vocational schools. Twelve teachers took part in the study. The problem-centred interviews were transcribed and analysed by using qualitative content analysis.

Findings: Problem orientation and life-world orientation are seen as relevant didactic principles for teaching financial topics. The teachers interviewed argue that teaching students

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ISSN: 2197-8646
https://www.ijrvet.net

how to deal with current problems in their lives engages their interest and motivates them. Multiperspectivity is viewed as less important. Students should first learn to act competently as a private individual before they are confronted with the company perspective or the systemic perspective is one reason given. Science orientation is also interpreted by the teachers as less relevant. According to some respondents of the study, students in part-time vocational schools are not significantly affected by the science orientation.

Conclusions: The understanding of science orientation should be reflected among teachers. Multiperspectivity is a relevant aspect in financial education even though it is seen as less relevant by the teachers. Offering lesson plans on how these principles are integrated in financial topics could be helpful for teachers. Furthermore, financial didactics should be integrated into teacher education curricula. This study is focused on a small number of interviews among Austrian teachers from part-time vocational schools only. Therefore, it would be interesting to conduct larger quantitative studies among teachers from different types of schools and with different educational and practical backgrounds.

Keywords: Financial Literacy, Vocational Teachers, Vocational School, Interview, VET, Vocational Education and Training

1 Introduction

Financial literacy is an issue of growing international importance. Twenty countries participated in the most recent financial literacy Programme for International Student Assessment (PISA) in the year 2022. 15-year-old students' financial literacy is associated with positive financial behaviours, such as rational consumption or saving as indicated by the PISA results (OECD, 2024). A German study confirms the relevance of financial literacy and self-control to avoid over-indebtedness (Hamdan, 2021). As a result, Hamdan (2021) calls for a national strategy for financial literacy. 15 of the countries participating in PISA have developed a national strategy to promote financial literacy among specific target groups, which emphasizes the international importance of financial literacy (OECD, 2024). The development of a national strategy for Germany has begun in 2023 (Rupprecht, 2024). In Austria, a national strategy was presented in 2021. Students in part-time vocational schools are a priority target group of this national strategy to improve financial education in Austria (OECD, 2021).

Schools are a key player in improving young people's financial literacy. As a result, many countries have integrated financial literacy topics into school curricula. A structured and long-term approach to financial education in schools is preferable, as highlighted by the Organisation for Economic Co-operation and Development (OECD, 2024). Financial education should start at an early age, before students become consumers, and continue throughout their lives. This is also pointed out by Lusardi and Mitchell (2023, p. 138) who note that

"financial literacy has become its own field of study and many countries have mandated financial literacy in school, beginning with elementary education". An analysis of data from the Survey of Consumer Finances conducted in 2019 in the United States shows that high school dropouts score significantly lower than people with college degrees on three relevant financial questions, known as the Big Three (Lusardi & Mitchell, 2023). The questions target relevant economic concepts in the field of saving. They comprise items on interest rate, inflation as well as on risk diversification (Lusardi & Mitchell, 2011, p. 19):

> *Suppose you had $100 in a savings account and the interest rate was 2 percent per year. After five years, how much do you think you would have in the account if you left the money to grow: More than $102, exactly $102, less than $102? I do not know; I refuse to answer.*
>
> *Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 percent per year. After one year, would you be able to buy more than, exactly the same as, or less than today with the money in this account? I do not know; I refuse to answer.*
>
> *Do you think that the following statement is true or false? 'Buying a single company stock usually provides a safer return than a stock mutual fund'. I do not know; I refuse to answer.*

A meta-analysis of 37 experimental studies also shows the importance of schools in financial education. Financial education in schools has sizeable impact on financial knowledge. The effect on knowledge is higher than the effect on financial behaviour, but the authors still conclude that implementing financial topics into school curricula is highly relevant (Kaiser & Menkhoff, 2020; Kaiser et al., 2022).

According to the PISA results on financial literacy, Austrian students performed better than the OECD average. However, a closer look at the results reveals some inequalities. Boys outperform girls, students with a high social status outperform students with a low economic, social and cultural status and non-immigrant students outperform immigrant students in Austria. These findings call for an expansion of financial education in schools in Austria to reduce those inequalities (Schmich et al., 2024). The education of young people in Austria is strongly linked to their parents' level of education. This relationship is particularly evident when comparing students from general secondary school (46% of their parents had a university degree in 2020) and students from part-time vocational schools (7% of their parents had a university degree in 2020) (Dornmayr, 2023). Consequently, financial education in part-time vocational schools becomes even more important to reduce these inequalities.

This is also supported by other empirical studies in this area. Grohs-Müller and Greimel-Fuhrmann (2019) conducted a study among Austrian students in the fourth year of secondary school and academic secondary school. The findings show that parents who discuss money-related issues with their children at home are a relevant factor for the development of rational consumption behaviour and financial planning. Additionally, the teaching of

financial topics in schools at the time of the survey had only a weak influence on financial planning. However, this may mean that students who do not have a family with whom they can discuss financial matters are influenced mainly by peers and advertising. This can lead to negative attitudes towards money. Again, this is an argument for the important role of teachers to promote financial literacy at schools.

The Austrian umbrella organisation of state-recognised debt counselling organisations published a report on the debt situation of Austrian citizens (ASB Schuldnerberatungen GmbH, 2024). This study highlights several factors that have contributed to the over-indebtedness of Austrian citizens in recent years, such as the COVID-19 pandemic and high inflation. These factors led to an increasing number of people who contacted a state-recognised debt advice organisation in 2023. People seeking debt advice in Austria have lower levels of formal education and a lower income than the population as a whole. The three most common reasons given for needing debt counselling in 2023 were unemployment and income decrease (32%), budgeting problems and lack of financial literacy (21%) and former entrepreneurship (18%) (ASB Schuldnerberatungen GmbH, 2024). These findings also support the importance of financial education in schools. However, few studies have examined the role of teachers, their training and experience, and their perceptions of what is important in financial education.

Teachers of business subjects at part-time vocational schools have a very unique background, which is not usual for other teachers in Austria. They must have completed a vocational training or studies themselves. In addition, they have to acquire several years of work experience outside of school before they can become a teacher at a part-time vocational school. Finally, once they have successfully applied to a school, they complete teacher training studies while working as a teacher (BMBWF, 2021). There is a lack of studies on the didactic principles that are relevant to these teachers when teaching financial topics. Therefore, this paper presents the results of the following research questions:

- Which didactic principles are relevant for teachers of part-time vocational schools in Austria in financial education?

- Why are some didactic principles perceived as more relevant and why are others perceived as less relevant by the teachers?

First, an overview of definitions in the field of financial literacy and didactic principles in financial education is given. Then the results of studies on teachers' views on financial literacy and the teaching of financial literacy are described. This is followed by an outline of the study design. The findings are then presented. In the final chapter the findings are summarized and discussed, the limitations are outlined and practical implications as well as ideas for further research are derived.

2 Definition of Financial Literacy and Didactic Principles

There is a wide range of definitions of financial literacy (see also Greimel-Fuhrmann et al., 2021). For example, the OECD (2022, p. 6) defines financial literacy as "a combination of financial awareness, knowledge, skill, attitudes and behaviors necessary to make sound financial decisions and ultimately achieve individual financial well-being". The Austrian strategy builds on this definition and adds at the end "and contribute to the sustainable development of the economy and society" (OECD, 2021, p. 10). While the initial OECD definition has a quite narrow focus on the individual well-being, wider definitions can be found in the research field of economic education[1]. Financial education, as one part of economic education, includes the consumer perspective, the business perspective and the public policy perspective (Kaminski & Friebel, 2012).

From a content perspective, several different dimensions seem to be part of the construct. Bosshardt and Walstad (2014), for example, define the following six activities as the basis for national standards for financial literacy in the USA: (1) Earning an income, (2) buying goods and services, (3) saving, (4) using credit, (5) financial investing, and (6) protecting and insuring. For German speaking countries, Kaminski and Eggert (2008) define similar categories, which comprise managing one's money, managing life risks, asset accumulation and retirement planning, and dealing with credits/loans. Wuttke and Aprea (2018) derived eight facets from expert interviews, including earning/obtaining money, planning and managing everyday financial matters, saving money/building assets, borrowing money/gaining credit, retirement planning, comparing/contracting insurances, preventing (over-)indebtedness and using financial counselling services. The experts comprised debt counsellors, financial advisors, financial educators, vocational school teachers, trainers at companies and apprentices from Germany, Austria and Switzerland (Aprea et al., 2015).

It is widely recognised that financial literacy is more than just mere knowledge. Cognitive aspects such as knowledge and skills are complemented with other factors including attitudes and awareness (OECD, 2022). Taking a competency-oriented approach, Wuttke and Aprea (2018, p. 274) define financial literacy as "the potential that enables a person to effectively plan, execute and control financial decisions". In accordance with Weinert (2001) the potential consists of knowledge, skills, motivations, interests, attitudes and values. Wuttke and Aprea (2018) describe the competence structure as consisting of individual and systemic aspects and within these aspects cognitive and non-cognitive factors are distinguished. They further specify that the cognitive part mainly comprises knowledge, skills and abilities, while the non-cognitive category consists of emotional, motivational and volitional facets as well as social values and norms.

1 "Ökonomische Bildung" or "finanzielle Bildung" in the German language.

In conclusion, the definitions within the field of financial literacy differ with regard to their content. A narrower definition of financial literacy may be understood as the ability to manage one's personal finances effectively. In contrast, a broader definition may encompass not only the individual but also the perspectives of businesses and a systemic view. A teachers' subjective definition of financial literacy (see also chapter 3) influences how they teach the topics. The life-world orientation is, for example, more focused on the individual level, whereas multiperspectivity is aimed at integrating a greater number of perspectives. Kirchner (2016) derived didactic principles based on a theoretical framework of elements on economic education. As financial education can be seen as part of economic education, these didactic principles were used to explore the views of the teachers in this study as well. The following paragraphs describe the didactic principles used in the interviews.

Life-world orientation as a didactic concept in financial education aims to enable students to competently shape and deal with current and future financial life situations. This didactic concept is closely related to the didactic principle of action orientation. Action-orientation becomes visible through action-orientated teaching methods. These teaching methods should motivate students to act in financial life situations (Albers, 1995; Kirchner, 2016; Steinmann, 1995, 1997). The sole focus on life-world orientation as a didactic principle can lead to a lack of theoretical background. Therefore, a science orientation is also necessary as emphasized by Kirchner (2016). This didactic principle is applied by considering current scientific knowledge and scientifically proven content. The fact that financial decisions usually involve different perspectives is the basis for the didactic principle of multiperspectivity. Financial issues can be analysed from the perspective of a consumer, an entrepreneur or the government. In class these views are presented and conflicting goals are pointed out (Kirchner, 2016). Consequently, not only one perspective should dominate the teaching of a subject (Loerwald, 2008).

Problem orientation as a didactic principle implies the use of real life problems from practice in teaching, with the aim that learners acquire the competence to solve them (Asplund et al., 2021). Competence orientation in financial education aims to develop not only knowledge, but also the ability to enable the students to act (Kirchner, 2016). According to Weinert (2001), competences as a goal of teaching consist of subject-specific professional competences, interdisciplinary competences and action-oriented competences that enable the successful and responsible use of the knowledge and abilities acquired in different life situations. Topicality as a didactic principle means the inclusion of current economic and social developments and media in the subject context (Kirchner, 2016).

3 Teachers' Views on Financial Literacy and the Teaching of Financial Literacy

The most common understanding of financial literacy from a content perspective is spending money as well as adding, subtracting, multiplying and dividing quantities of money. This was found by a study involving 35 primary school teachers in Australia. While most of those teachers consider themselves as being financially literate, around half of them are not confident in teaching financial topics and most teachers are interested in further training on how to teach financial literacy (Sawatzki & Sullivan, 2017).

Experienced teachers focus their teaching on practical financial skills that enable students to deal with financial situations in their personal lives. This indicates an interview study of 21 upper secondary school teachers in Sweden on their teaching of financial literacy (Björklund, 2019, 2020).

Leumann and Aprea (2016) conducted a mixed-methods study with vocational school teachers in Switzerland. The study consisted of a questionnaire study among 172 teachers, as well as an interview study with five teachers. The teachers again see financial literacy primarily as personal money management. Teaching an understanding of economic relationships is described by teachers as a challenge. Additionally, the results indicate that the understanding of a financially literate student differs depending on the concept of financial literacy.

A study, funded by the University of Education Upper Austria, which is based on the same data as that analysed for this article provides insights into the vocational teachers understanding of financial literacy (Cechovsky & Doppler, 2022). As the findings of the study by Cechovsky and Doppler (2022) are closely related to the results of the didactic principles presented below, they are described here. This provides further insights into the views of part-time vocational school teachers on financial literacy and builds the basis for interpreting the results presented in chapter 5 below. The guiding interview question was 'What does financial literacy mean to you?'. Since financial literacy is more than just knowledge, categories for analysing the interviews were derived from Wuttke and Aprea's (2018) competency-oriented definition of financial literacy as already described in Chapter 2 above. Specifically, individual cognitive and individual non-cognitive facets as well as systemic cognitive and systemic non-cognitive facets were distinguished.

The majority of the teachers' descriptions fall under the individual cognitive facet. In this category, the teachers emphasize understanding and the ability to act in certain situations rather than the acquisition of knowledge as mere reproduction of previously learned content. For example, expressions such as 'having one's finances under control', 'being able to manage one's money' or 'having an overview of one's finances' are used.

Non-cognitive facets of competence at the individual level are described by three respondents as limiting consumption or the ability to delay gratification. Another non-cognitive

facet of financial literacy mentioned at the individual level is checking the plausibility of calculations. The ability to reflect on one's own saving and purchasing behaviour is described by one teacher and can also be categorised as an individual non-cognitive facet of financial literacy. In the study by Aprea et al. (2015), facets such as interest in financial topics or values in dealing with money are also frequently mentioned, which is not the case in the present study.

Only a few interviewees mention aspects related to the systemic level. Inflation and the role of banks are mentioned as systemic knowledge. Non-cognitive competence facets in the systemic domain are not mentioned. According to Aprea et al. (2015), these could be for example positive attitudes, values, information literacy, analysis and reflection on the interaction between one's own values, and market morality.

In terms of content, Kaminski and Eggert's (2008) categories were used to analyse the interviews. This definition was chosen because the topics mentioned are also integrated in the curriculum of part-time vocational schools (BMBWF, 2020) and constitute a comprehensive definition of financial literacy. These are the following content areas

- Managing one's money
- Managing life risks
- Asset accumulation and retirement planning
- Dealing with credits/loans

All the teachers interviewed consider managing one's own money to be a relevant part of financial education. Within the category of managing one's own money, further subcategories were inductively formed. From the teachers' point of view, the ability to have an overview of one's own finances and to make good financial decisions seems to be relevant for financial literacy.

It also seems to be important to be able to reflect on one's spending and to be able to spend consciously and, if necessary, to reduce consumption, save money and build up financial reserves. Avoiding debt was also mentioned by the teachers, along with topics such as the use of non-cash payment methods and bank accounts in this category. This is broadly in line with the content identified by Kaminski and Eggert (2008). Teachers do not address the cost and time involved in money transactions or the question of which means of payment and accounts are needed. The focus of the respondents is rather on the use of bank accounts and electronic means of payment, which seems to make sense as the students already have bank accounts and use payment cards.

Five respondents described content in the category 'asset accumulation and retirement planning', four respondents mentioned areas in the category 'dealing with credits/loans' and one respondent mentioned content in the category 'managing life risks' (Cechovsky & Doppler, 2022).

The teachers' view of financial literacy is focused on the individual level and on the current life situation of the students. Similar results were found by Wuttke and Aprea (2018, p. 275) who interviewed experts (debt counsellors, financial advisors, financial educators, vocational school teachers, trainers at companies and apprentices from Germany, Austria and Switzerland) about their understanding of financial literacy and who conclude that "the individual cognitive area was represented most prominently and elaborated most sophisticatedly in the statements of the experts". This is supported by Björklund (2019, p. 42) who conducted an interview study among Swedish teachers and found their financial literacy teaching to be primarily focused on "income, expenditures, and household budgeting". Nevertheless, an examination of the curriculum reveals a comprehensive coverage of diverse subject matter, including personal financial planning, entrepreneurial and economic perspectives (Cechovsky & Doppler, 2022).

4 Research Design

In the following chapters the data collection, the participants of the study and the analysis of the data are described.

4.1 Data Collection

Between December 2021 and February 2022, 12 interviews were conducted with teachers from part-time vocational schools in Austria. The participants were recruited by a person who works at both, the university of education where the study was conducted, and a vocational school. This person acted as a gatekeeper. A gatekeeper is part of the field and can help to motivate people to participate in the study (Misoch, 2015). Participation was voluntary and the participants were informed of the anonymisation of the data. All participants gave their informed consent to take part in the study. The interviews were recorded and lasted between eight and 36 minutes. Nine interviews were conducted face-to-face, while three were held via Microsoft Teams as required by COVID-19 regulations. A semi-structured interview guide was used. Following the problem-centred interview method (Witzel, 2000), various techniques such as paraphrasing and probing were used. In order to answer the research questions "Which didactic principles are relevant for teachers of part-time vocational schools in Austria in financial education?" and "Why are some didactic principles perceived as more relevant and why are other didactic principles perceived as less relevant by the teachers?", cards were either printed out or presented on a digital whiteboard. The cards included the following didactic principles (Kirchner, 2016), which are described in more detail in chapter 2:

- Problem orientation
- Life-world orientation/life-situation approach
- Topicality
- Competence orientation
- Action orientation/ability to act
- Multiperspectivity
- Science orientation

The participants were then asked to rank the cards based on their relevance to teaching financial literacy. They took the cards and ranked them hierarchically. They were then asked to explain why they had arranged them in this way.

4.2 Participants

All participants teach business subjects at part-time vocational schools in Upper Austria. The twelve participants were selected in order to obtain a heterogeneous sample. The relevant characteristics to vary the sample were gender, work experience, and whether they taught apprentices in a commercial vocation or apprentices in other vocations. The curriculum of commercial apprentices integrates more financial units and more hours on business-related subjects than those of other apprentices (Cechovsky & Doppler, 2022). Table 1 below displays the characteristics of the sample.

Table 1: Characteristics of the Sample

Gender	Male	6
	Female	6
Apprentices	Commercial	3
	Others	4
	Both	5
Work experience	More than 10 years	6
	Less than 10 years	6

4.3 Data Analysis

Qualitative content analysis according to Mayring (2000) was employed to analyse the interview transcripts. The categories were derived from the existing literature (Kirchner, 2016) and the method of deductive category application was used and supplemented where necessary by inductive content analysis (Mayring, 2000). The reasons for the importance or the lack thereof were subject to an inductive analysis. For this purpose, only those sections of the transcripts in which those reasons are described were used. The text was scanned for reasons, whereby the identification of a new reason resulted in the creation of a new category. For the following reasons it was determined whether they should be classified under the existing category or if a new category needed to be created. This process was carried out throughout the text. Table 2 below gives an overview of all categories. In some cases, no reasons were given for the category not being relevant, in which case the cell is left blank. Example quotes for each category are provided in chapter 5 Results.

Table 2: Categories

Didactic principles	*Reasons for importance*	*Reasons for lack of importance*
Problem orientation	Promotes the development of competencies Helps to engage and motivate students Provides a good introduction to financial topics	
Life-world orientation/life-situation approach	Highlights current and future relevance Raises students' awareness of their experiences and preconditions	
Topicality	Necessary to stay up-to-date with new developments Allows the integration of current newspaper articles	Current affairs are only a side issue
Competence orientation	Financial education goes beyond mere knowledge transfer	Curriculum is competence oriented anyway
Action orientation/ ability to act	Students learn to manage financial situations in real life Students learn that they are responsible for their own decisions	
Multiperspectivity	Important to expose students to different perspectives	Students should learn their own perspective first Only relevant for certain students (according to their vocation)
Science orientation	Knowledge should be based on science	Has little impact on students Lack of scientific knowledge of teachers

5 Results

The respondents were asked to rank the seven didactic principles in order of their relevance to the teaching of financial topics. One teacher was not able to place six cards in a hierarchical order because they all seemed to have the same relevance to him/her. To get an overview, the first three ranks were counted as well as the last rank. The results demonstrate that problem orientation, life-world orientation and topicality are the three most significant didactic principles, whereas science orientation is the least important. The subchapters are arranged according to their importance to the interviewees.

5.1 Problem Orientation

In the interviews, three teachers identified problem orientation as the most relevant didactic principle for their financial lessons. For three others, it was identified as the second most relevant principle, and for three more it was identified as the third most relevant principle. No teacher ranked problem orientation as being the least important principle. Therefore, no reasons for the lack of importance of problem orientation could be deduced from the interviews.

Three reasons can be identified for the relevance of problem orientation in financial education. Firstly, real-world problems facilitate the development of competencies. This is illustrated by the following quote: "I put problem orientation right at the top because I like to integrate problems from real life into the classroom to develop the students' competences to solve them" (Interview 9, lines 114–116)[2].

Secondly, problems help to engage and motivate students. One teacher described this as follows:

> *You [the teacher] ask the students what is your experience, in private life or in professional life? Have you already been confronted with such problems? And when one [student] tells it, of course it is very different for them than when I tell it, but they can relate better to it. (Interview 11, lines 280–284)*

Third, real-world problems are seen as a good way to introduce financial topics, as shown by this quote:

> *Problem orientation is particularly suitable at the beginning of a topic […] to make the students aware of why, what is the problem, how can it be solved, or why do you actually need the contents that we are teaching, in which situations and for which real problems do you need this knowledge? (Interview 6, lines 170–174)*

2 The quotes have been translated into English using linguistic smoothing in order to improve the readability.

Problem orientation seems to be a popular didactic concept for the teachers. One reason for this could be their often extensive professional and life experience before they became teachers. Another reason could be the fact that the students at part-time vocational schools are already earning money as apprentices and therefore teachers can refer to financial problems from their everyday life.

5.2 Life-World Orientation/Life-Situation Approach

Three of the respondents ranked life-world orientation as being the most important didactic principle for them when teaching financial topics and three ranked it as the second most important principle. None ranked it on the third or last place. Again, no arguments could be found why this category was less important.

Two reasons for the importance of this category were deduced. This principle shows the current or future relevance of the topics, whether in private or professional life. One teacher described this as follows:

> *I ranked life-world orientation relatively high, because I think you should always have the life-world of the students in mind, and that can vary depending on the profession [of the students]. I have to consider what they really need in their profession, and in their private life. It is similar for most of them anyway, but it can differ. (…) Retailers need different things than wholesalers, for example. (Interview 6, lines 164–169)*

One person indicated that discussing life situations with their students helps them to become aware of their experiences and preconditions in financial matters. This is illustrated by the following quote:

> *I have to look at the background of the students, what has been their previous experience, what have they already learned at the company, what do they already know in the financial field (…), what is the basic prerequisite, where do we have to start with our ideas? (Interview 8, lines 100–105)*

These quotes illustrate that both teachers consider the professions of the apprentices to be significant in terms of integrating a life-world orientation into their teaching. This is an understandable approach, given that teachers teach students from diverse vocational backgrounds and companies, resulting in a considerable variation in their financial experiences.

5.3 Topicality

For three out of eleven respondents, topicality is the most relevant didactic principle for their financial education teaching, for two it is in second place and for one it is in third place. The respondents gave two arguments for the relevance of topicality. The fast-moving economy

makes it necessary to keep abreast of new developments, as it was stated by the following teacher, for example: "Topicality is important, because a lot is happening in the market. This has a high [value for teaching]. In my opinion, I cannot rely on things that are too old" (Interview 2, lines 111–113).

They also discussed the importance of incorporating topicality by using newspaper articles about current issues relevant to the subject being taught. One teacher described this as follows: "Topicality is very important, I also like to use newspaper articles or reports that I found when it comes to economic topics, I like to include these a lot" (Interview 9, lines 119–122).

Only one person rated topicality as least important. For this teacher, current affairs are a side issue. They should not dominate the lesson.

Both arguments appear to be valid. With regard to financial education, it seems reasonable to integrate current developments into the teaching if this is appropriate to the topic. However, relying solely on current developments would make it impossible to teach in accordance with the curriculum. In this sample, teachers with more experience tend to perceive topicality as less relevant. This may be due to their focus on the curriculum and their reliance on proven lesson plans.

5.4 Competence Orientation

Two respondents ranked competence orientation as the most important principle and two as the third most important principle for them when teaching financial topics. One person ranked it as being least important. Competence orientation is important for the teachers since it is more than transferring knowledge. This is shown by the following quote:

> *Competence orientation [means that you need] not only knowledge, but you also have to be able to put what you know into practice, to develop the right attitude and motivation. For example, today I am saving for a certain goal and I also know why I am doing it. (Interview 5, lines 122–126)*

One person mentioned that competence orientation is a term that is used too frequently and that the curriculum is competence oriented anyways. The respective interviewee described this as follows:

> *I put competence orientation (sighs) at the end because it is already a bit of an overused term. I think, it was already expressed in the previous cards, that's why I put it at the end. The curriculum is competence oriented anyway. (Interview 6, lines 177–181)*

This interviewee had only two years of teaching experience at the time of the interview. This indicates that he or she was still studying at the University of Teacher Education. Competence orientation is a very prominent topic in teacher education. This could be the reason for this critical statement.

5.5 Action Orientation/Ability to Act

No one ranked action orientation as the most important didactic principle for financial education. Two respondents ranked it second and three ranked it third. One respondent ranked it as the least important.

Respondents gave two arguments for the relevance of action orientation in their teaching. The first was that students learn to manage financial situations in real life. This is illustrated by the following quote: "Action orientation is my ultimate goal. The students then really manage to act in practice in such a way that they can apply what they have learnt and also question it critically" (Interview 8, lines 128–131).

It is also important to show the students that they are responsible for their own decisions as this quote demonstrates: "They are at an age where they are at least responsible minors or already fully capable of acting, therefore it is important to make them understand that they are fully responsible and liable for their decisions" (Interview 5, lines 119–122).

One reason why action orientation is less important than other didactic principles may be that the teachers have many topics in the curriculum and the time is limited. Therefore, they may rely on teacher-centred methods. Some of the respondents have not yet completed their studies, so they may not yet be equipped with a wide range of teaching methods.

5.6 Multiperspectivity

Only one respondent had included multiperspectivity in his or her top three most didactic principles, and this person ranked it third. One person ranked it as the least important. The analysis also showed that five out of eleven respondents ranked it second to last.

One argument for integrating multiperspectivity was the importance to expose students to different views on financial issues. One teacher described it as follows:

> *There are usually different perspectives when it comes to financial decisions: Consumer, entrepreneur or government. You should be able to see, or at least be aware of, the fact that there are different perspectives and that you need to take them into account when making decisions or taking action. (Interview 9, lines 123–127)*

One reason for the lack of importance of multiperspectivity is that the students should first learn to act competently in financial situations as a private individual. This is argued as follows:

> *Multiperspectivity is not so important for me now, because I want to strengthen them [the students] in their lives. What they do later as entrepreneurs: If they didn't get it as a private person, they won't get it as an entrepreneur either. (…) I think I overburden them when I teach the government perspective because that perspective is too far away. (Interview 7, lines 111–116)*

One person argues that the relevance of multiperspectivity depends on the vocation of the students. For students training to be bankers, it is more important to know different perspectives than for students training to be salespeople, as this quote shows:

> *When I teach bankers, I always point out what is good for the company and what is good for the customer. I think this is less important for retailers (…), because when it comes to financial matters, it is more important that they learn what is important and good for them as customers and how they can get ahead, because they somehow don't have the difference between I am an employee in the company and I am a customer or this is my customer, but they are just customers in this case. (Interview 10, lines 194–201)*

The lack of importance of multiple perspectives for teachers can be explained by their own definitions of financial literacy. As described in Chapter 3, teachers see financial literacy as managing one's own money, which does not include the enterprise and systemic perspectives.

5.7 Science Orientation

One respondent ranked science orientation as the second most important principle. Eight respondents ranked it as the least important principle. Science orientation is considered important because knowledge should be based on science. This is argued by the teacher as follows: "Science orientation is important, of course, because you should teach what is scientifically based, and also consider current developments" (Interview 6, lines 159–161).

Science orientation was not a priority for the respondents, as it has little impact on students. This is argued in the following quote: "Science orientation is great if you can take that into account, but is in my opinion for the students the least important of these seven points. I think that concerns them the least" (Interview 4, lines 164–167).

Another reason is the lack of scientific knowledge of the teachers, as this teacher explained: "The only thing I have to admit, when it comes to science orientation, I cannot offer much here yet. Not because I'm not interested, because I probably have too little experience or too little knowledge" (Interview 11, lines 321–324).

The reasons for the low importance of science orientation show that the teachers have a subjective understanding of this didactic principle which does not correspond to the understanding specified in chapter 2. They see this didactic principle as knowledge that is important for older learners or more academic schools as Kirchner (2016) found. In addition, some teachers seem to still see themselves as practitioners because of their professional training and work experience, as it is explained by interviewee eleven, who has had only two years of teaching experience. This teacher thinks that science orientation is something he or she cannot yet offer and still has to learn.

6 Discussion and Conclusion

Many respondents consider problem orientation and life-world orientation to be relevant principles for their teaching. In addition, teaching students how to deal with current problems in their lives arouses their interest and motivates them. This specific target group of vocational teachers had vocational training as well as often longstanding vocational experience themselves. As a consequence, they have a lot of practical experience which they use for their teaching. Additionally, the students are already working as apprentices and earn money, therefore, the teachers integrate issues from the professional and private life of the students as well.

Multiperspectivity is seen as less important by several respondents, which is in line with the narrow definition of the teachers' financial literacy found in this target group and also in other studies as well (Björklund, 2019, 2020; Cechovsky & Doppler, 2022; Leumann & Aprea, 2016; Sawatzki & Sullivan, 2017). Students should first learn to act competently as a private individual, is one reason given. Nevertheless, in a part-time vocational school it would make sense to at least cover the entrepreneurial and consumer perspective, which is also mentioned by one interviewee. The challenge of a narrow understanding of financial literacy and the implications for teaching have also been pointed out in other studies (Björklund, 2019; Björklund & Sandahl, 2023; Leumann & Aprea, 2016). Financial education needs to incorporate financial decisions as well as societal and economic impacts and the underlying economic and political structures (Björklund & Sandahl, 2023).

Many of the interviewees considered science orientation to be less important than the other principles. This result was also found by Kirchner (2016), who conducted interviews with teachers in Germany. For those teachers science orientation is only relevant for older learners as well as for students in grammar schools. For them, life situation orientation is suitable for younger students, as it allows previous experiences from their lives to be used to learn new topics (Kirchner, 2016). These findings are similar to those of this study, where teachers claim students in part-time vocational schools are not affected by science orientation. Consequently, teachers seem to have a subjective understanding of science orientation, which may be different from the scientific understanding, as is also pointed out by Kirchner (2016). Probably science orientation is interpreted as science propaedeutics, which includes the study of science such as terminology, theories and methods. This can be seen as preparation for university studies. However, science orientation means teaching contents are proved scientifically and the solution of problems is based on scientific knowledge (Kaiser, 1991). Several statements of the teachers interviewed indicate how they see themselves as practitioners and seem to be afraid of contact with science.

6.1 Practical Implications

To broaden teachers' perspectives on financial literacy, teacher training seminars can be designed to integrate multiple perspectives into relevant financial topics covered in the curriculum of part-time vocational schools. This is also supported by Leumann and Aprea (2016). Another practical implication is the development of teaching materials which focus on topics that are not yet in the teachers' definition of financial literacy, such as forms of credit or dealing with credit problems of life risks.

In addition, financial literacy and financial education should be explicitly included in the curricula for teachers in part-time vocational schools. It is important to reflect professional experience in the teaching of financial education. Consequently, teachers should be enabled to draw on a variety of didactic principles and to select them according to the specific topics.

As far as the science orientation is concerned, teacher training is called upon to convey the relevance of this aspect. Several methods, such as research-based learning, can be used to improve one's own teaching (Altrichter et al., 2023; Altrichter & Reitinger, 2019). This is particularly suitable for teachers at part-time vocational schools, as they already work as teachers during their studies. In addition, the teachers could be involved in research projects at teacher training universities, as suggested by Cechovsky and Kulcsar (2021). Consequently, such experiences could be helpful in reducing the barriers to science.

6.2 Limitations and Further Research Directions

The topic of digitalisation is becoming increasingly important in the research on financial literacy. "The transition towards a digital economy, accelerated by the Covid-19 outbreak, has altered the traditional mechanisms of financial transactions and underscored the need for individuals to acquire digital financial literacy (DFL) to navigate this evolving industry effectively" (Ferilli et al., 2024, p. 1). However, this particular dimension was not incorporated within the narrow scope of this study. Consequently, further research is necessary to study the effects of digitalisation on financial literacy and financial education in schools.

Only a small number of teachers were interviewed. Larger studies could be conducted to verify the findings. In addition, the target group of this study was very specific. As already mentioned in the introduction, the teachers at part-time vocational schools in Austria often have many years of practical work experience before they begin teaching. They then conduct their teacher training while teaching simultaneously (BMBWF, 2021). As a consequence, they are often highly experienced in professional business contexts.

Further studies could compare the views of teachers, who teach at other school types and have other educational backgrounds. In Austria, for example, teachers with different educational backgrounds teach financial topics. Those who have the most intensive training in business-related topics and business didactics are business education teachers. It would be

interesting to see whether their didactic views differ from those of the target group of this study.

There were few differences in the interviews according to the characteristics of the sample. Topicality seemed to be less important for experienced teachers. However, this hypothesis needs to be tested in a larger quantitative study.

The didactic principles given to the participants are relevant for teaching financial topics. However, some are more appropriate for certain topics. Furthermore, in some instances the didactic principles are not entirely distinct from one another. Consequently, it remains uncertain if the teachers have a thorough understanding of the meaning of the principles and their practical implementation in the classroom. Additionally, we do not know if and how teachers actually implement their views on financial topics and their assessment of teaching principles in the classroom. To gain further insight, it would be beneficial to conduct additional observational studies, to verify the results of the interviews. Further studies are also needed to explore teachers' different interpretations of science orientation.

In the meta-analysis conducted by Kaiser and Menkhoff (2020), the effect of financial education was higher on knowledge than on behaviour. Based on the view of this target group, which emphasises the importance of problem orientation and life-world orientation, it can be hypothesised that financial education in part-time vocational schools has an impact on students' behaviour. This can be tested in future quantitative studies among students from part-time vocational schools.

Ethics Statement

The research complies with ethical guidelines and adheres to the ethical standards by the Austrian Association for Research and Development in Education (Österreichische Gesellschaft für Forschung und Entwicklung im Bildungswesen, ÖFEB). As it is not required in Austria, no approval was obtained from an independent ethics committee. All participants gave their informed consent to take part in the study. The interview data was anonymised.

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