

Nutrition and consumer education as a constituent part of global education in the light of the new education framework in state schools in southern Germany: The case of Baden-Württemberg

Claudia Angele* – *University of Education, Weingarten, Germany*

Abstract

Nutrition and consumer education may be regarded as a constituent part of global education. It is, however, necessary to explore the connections between the specific subject didactics of nutrition and consumer education, and global education more closely within current academic discourse if we are to understand it better. Currently, there is virtually no research or academic writing about these connections in the field of global education and global learning, apart from a few considerations addressing fair trade issues. This article follows an initial, exploratory approach to explore the relationship between nutrition and consumer education, and global education.

In this, the role of the state in formal education must be considered insofar as its educational policies on nutrition and consumer education curricula also exert an influence on the syllabus content of nutrition and consumer education. In the new nutrition and consumer education curricula in southern Germany (specifically in Baden-Württemberg in 2016), global aspects of the syllabus are to some extent explicit, as the curriculum analysis will show. Nevertheless, a critical view of the new curricula is necessary to understand how, and how far, it includes global learning concepts.

In future, along with an exploratory approach to the relationship between nutrition and consumer education, and global education, as offered by this article, there will also be a need for empirical subject-didactic research to clarify whether and where there are tangencies between nutrition and consumer education, and global learning in everyday teaching praxis. Empirical subject-didactic research in this field has hitherto been lacking, and thus offers a research desideratum.

Keywords: nutrition education; consumer education; global learning; German curriculum in nutrition and consumer education; global perspectives; pedagogy

Introduction

This article explores the relationship between the specific subject didactics of nutrition and consumer education, and global learning, concentrating on how they are conducted within formal education at secondary schools. The article is structured as follows:

- The first section elucidates concepts of global learning on which the article is based.

- The second section explores connections between the subject didactics of nutrition and consumer education, and global learning. This second step can only be exploratory because there has so far been virtually no academic writing or empirical research on these connections.
- The third section looks at global aspects in the new curriculum of nutrition and consumer education in formal education in southern Germany (in secondary schools), and critiques them in the light of the notions of global learning discussed in the first section.

The article closes with a summary and the prospects for an empirical research desideratum in the subject didactics of nutrition and consumer education. The article does not claim to give a comprehensive view of the relationship between nutrition and consumer education, and global learning, but rather seeks to show initial steps in this field through an exploratory approach. The point of view from which the exploratory approach is derived is that of an expert in specific subject didactics, here the nutrition and consumer education didactics in which the author specializes. There may well be further perspectives on this relationship to be taken into account, for example those of experts in global learning.

Concepts of global learning as they apply to nutrition and consumer education

Within the remit of this article, I apply a concept of global learning as defined by Scheunpflug and Mehren (2016: 205): ‘a pedagogical response to globalisation’. This concept is founded in Scheunpflug’s evolution- and systems theory-based pedagogical notions of global learning (Scheunpflug and Mehren, 2016; Asbrand and Wettstädt, 2012). The fundamental motive of this approach to global learning is that learners should be prepared ‘to live in a world society characterized by growing complexity, ambiguity and uncertainty’ (Scheunpflug and Mehren, 2016: 213). Thus, the aim of global learning is that learners acquire competences to deal with complexity, which happens through practice in abstract thinking and enhancing one’s personal capacity for complex response and action (Asbrand and Wettstädt, 2012).

In this, such a concept of global learning is clearly distinguished from a second main thread of the conceptual discourse on pedagogical notions of global learning within the German-speaking world, the ‘theory of action plans’ (Bühler, 1996, translated in Scheunpflug and Mehren, 2016: 212). This action-based approach is founded in a holistic notion of the world and humankind ‘and define[s] normative aims, objectives and contents of Global Learning along values and principles such as solidarity, tolerance, empathy and a “one world” standpoint’ (Scheunpflug and Mehren, 2016: 212).

With regard to the concept of global learning, this article follows Scheunpflug’s evolutionary and systems theory-based approach (Scheunpflug and Mehren, 2016), as its aim – to prepare learners for life in a global society of ever-increasing complexity – is equally relevant to the field of nutrition and nutrition education; within a global society it becomes increasingly apparent that nutrition is a complex field riddled with contradictions, as the discussion in the second section will show. In current notions of nutrition didactics, nutrition competence is understood as a conglomerate of competences that equips the learner for autonomous action on their everyday nutrition habits, even under complex social conditions (Methfessel, 2009). In this, it becomes plain that coping with increasing complexity, and with the digital interconnection of

the individual in a global context, also plays a significant role in didactic approaches to nutrition education.

In Hartmeyer's (2012) account of global learning in Austria, within the practical dimension as global learning content, an area is identified that exposes the global interconnections and the interweaving of each individual in global processes for critical reflection. One important spatial dimension of global learning is one's immediate surroundings, that is, practical everyday experience. Adopting this 'close-up' focus as a didactic principle raises the question of whether one thus oversimplifies the complexity of global structures, or whether it is rather the case that such a focus can be helpful in grasping the complexities (Hartmeyer, 2012), where topics such as daily consumption habits can help to open up the content of global learning. Here, too, connections can be found for the subject didactics of nutrition and consumer education, to the extent that nutrition may be presented as a problem area with global ramifications, and that foodstuffs are everyday, basic consumer goods stemming from globalized production processes (see the second section, below).

In the field of global learning, one also finds a whole series of competence models that define the expected outcomes of the learning. One example is the 'Göttingen model of competence assessment', which delineates four sub-competencies: '(1) generating and reflecting on information, (2) evaluating, deciding and reflecting, (3) knowledge and understanding of values and norms, (4) knowledge and understanding of sustainable development' (Eggert and Bögeholz, 2006, translated in Scheunpflug and Mehren, 2016: 217).

Sub-competency 4 makes it plain that the vision of sustainable development is implicit in global learning, something that has been true since the political discourse of the 1990s (Asbrand and Wettstädt, 2012). The connections between global learning and learning for sustainable development are variously described (Schreiber, 2012); often, education for sustainable development is regarded as a pedagogical field related to global learning (Schreiber, 2012; Hartmeyer, 2012).

Proceeding from the notion that global learning is 'a pedagogical response to globalisation' (Scheunpflug and Mehren, 2016: 205), the next section examines the extent to which global perspectives can be found in the specific subject didactics of nutrition and consumer education.

Aspects of the relationship between nutrition and consumer education, and global learning: An initial approach

Nutrition, food purchasing and food consumption need to be seen in a global context if individuals and groups are to act at all responsibly and sustainably within these existentially important fields. Therefore, nutrition and consumer education in publicly funded schools needs to take a global view if it is to empower young people to make decisions about nutrition and consumption within a complex globalized context (Angele, 2017; Bartsch *et al.*, 2013). Furthermore, nutrition education and consumer education may be instruments to support the new United Nations sustainable development goals (United Nations, 2015). Connections in practice between the sustainable development goals and nutrition education and consumer education are evident, for example in issues of food production and consumption: 'It is time to rethink how we grow, share and consume our food' (United Nations, 2015: Goal 2). Moreover, nutrition education and consumer education should always be seen in the context of health promotion and illness prevention. Health, well-being and prevention are also

important elements of the sustainable development goals: 'Ensuring healthy lives and promoting the well-being for all at all ages is essential to sustainable development' (United Nations, 2015: Goal 3).

Even these initial considerations make it clear that there is an important and intrinsic relationship between nutrition education and consumer education, and global education. In the field of global education there has so far been little research, and even less writing, about possible contributions by nutrition education to global learning. Therefore, the following discussion, proceeding from a subject-didactic view of nutrition education and consumer education, offers an initial exploratory approach to the relationship between food, nutrition and consumer education, and global education.

The global perspective on nutrition and consumer education can be explored along three lines: (1) with regard to educational content of nutrition education and consumer education that has an intrinsic global view; (2) concerning the educational aims of nutrition education and consumer education in international concepts and (3) concerning subject didactics and study techniques that open up a global perspective in the current subject-didactic dimensions of nutrition and consumer education (Angele, 2017).

The three lines can be particularized, thus:

- (1) The educational content of nutrition and consumer education has an intrinsic global dimension because food purchasing and food consumption meet basic needs and constitute existential aspects of human life in all cultures, worldwide. A few selected facts may illuminate global aspects of nutrition and food consumption.

The food industry in general is highly globalized and forms part of global trade (BVE, 2016). Furthermore, fair trade foods constitute the largest sector of the fair trade movement worldwide (see www.forum-fairer-handel.de/fairer-handel/zahlen-fakten).

In addition, the world food supply chain is a phenomenon with ambivalent manifestations and complex causes and effects. On the one hand, in most industrialized countries, malnutrition is evident in the sense of over-nutrition (too many calories, too much animal protein and not enough unsaturated fatty acids) and a general overabundance of food, while people in poorer countries are afflicted by malnutrition as under-nutrition (not enough key nutrients, for example vitamin A, iron and iodine deficiencies) and undernourishment (von Koerber, 2014). Although the number of people suffering from a lack of food has decreased from 23.3 per cent in 1990–92 to 12.9 per cent in 2015 in developing regions, there were still 795 million undernourished people in 2014–16 (FAO *et al.*, 2015; data for 2014–16 estimated).

Another global tendency can be seen in the rising proportion of people who are overweight or obese, both conditions that have been global problems for many years. The World Health Organization (WHO) calls these conditions 'one of the greatest public health challenges of the 21st century' (WHO Regional Office for Europe, 2016a: n.p.). The prevalence of obesity has tripled in some countries since the 1980s (WHO Regional Office for Europe, 2017). In Europe, 'Based on the latest estimates in European Union countries, being overweight affects 30–70% and obesity affects 10–30% of adults' (WHO Regional Office for Europe, 2016b: n.p.).

This array of facts about nutrition and consumption of food makes no claim to completeness but gives examples of global aspects of nutrition education and consumer education. A global perspective on nutrition can be founded in a scientific approach to sustainable nutrition, such as that of Karl von Koerber (2014).

- He describes five dimensions that influence nutrition and food consumption, or which are influenced by nutrition and food consumption: individuals and individuals' health, environment, society, economy and culture (von Koerber, 2014).
- (2) National and international concepts of nutrition and consumer education define the learning aims in nutrition and food consumption for children, young people and adults. Surveying a variety of these concepts makes it evident that there is – at least partially – a common understanding of the aims and objectives of nutrition and consumer education. These objectives normally include a basic knowledge of healthy nutrition and food, as well as practical purchasing skills to choose healthy foodstuffs from sustainable sources, skills in food preparation, and the capacity to act self-reliantly and responsibly on nutrition issues in one's everyday private life. The sum of competences in nutrition that enable a person to decide and act in a healthy and economically, ecologically and socially responsible way is called 'nutrition literacy' (see www.evb-online.de/glossar_nutrition_literacy.php). The United Nations Food and Agriculture Organization (FAO), for example, suggests in its Nutrition Education and Consumer Awareness project: 'Practice and motivation are as valuable as information and understanding' (FAO, 2011: 6). Knowledge and skills in nutrition thus comprise the following basic aspects: 'food habits and food purchasing, food preparation, food safety and environmental conditions' (FAO, 2011: 4).

In its paper *Healthy Eating for Young People*, the International Planning Committee of the European Network of Health Promoting Schools (Dixey et al., 1999) – a partnership comprising the WHO Regional Office for Europe, the European Commission and the Council of Europe – developed a framework for nutrition education. This framework defines competences in nutrition and food consumption in seven thematic areas that include knowledge of global and local aspects of food and food consumption, as well as cultural, economic and social aspects. It furthermore defines practical food preparation skills, as well as skills in food purchasing, storage of food and stocking a larder. The syllabus is divided into four age ranges: children from 4 to 7, children from 8 to 10, young people from 11 to 13 and young people from 14 to 18 years of age (Dixey et al., 1999; Heindl, 2003).

Another framework for nutrition and consumer education in German-speaking countries, the *REVIS* concept, is based on the European Healthy Eating Framework (Heseker et al., 2005). *REVIS* stands for *Reform der Ernährungs- und Verbraucherbildung an Schulen* – reform of nutrition and consumer education in schools. Developed in partnership by the University of Paderborn, the University of Flensburg and the University of Education in Heidelberg, it defines educational objectives, competences and essential themes for nutrition education and consumer education in schools through to the end of compulsory school attendance (Heseker et al., 2005). The *REVIS* competences also include knowledge and practical skills. Furthermore, the defined competences in nutrition are combined with competences in health education and in consumer education. It is significant that the competences in consumer education are based on sustainability goals, to enable young people to make informed and well-considered food choices in a complex, often even self-contradictory, field. Accordingly, decisions on what to eat, where to buy food and how to prepare food may put the vision of a sustainable future into practice and thus help to achieve the sustainable development goals (Ritterbach, 2014; United Nations, 2015).

- (3) Current subject didactics in nutrition education and consumer education in German-speaking countries follow the principle of aiming to offer multidimensional access to learning content. Buchner *et al.* (2011), Austrian academics in the field of nutrition didactics, assume that our everyday eating habits are determined by three parameters: the eater, the food eaten and the setting.

The eater's individual physiological state is determined, among other factors, by his or her weight, metabolism, health and attitude towards foods. The food chosen by a particular individual may vary according to nutrients (macronutrients and micronutrients), taste, flavour and colour, but also according to the way it has been produced, processed, stored and transported. According to Buchner *et al.* (2011), the setting means the environment, as well as the society, the culture and the age in which people live, or the individual lifetime. Exploring learning content in nutrition education needs to address these categories.

Reflecting on Buchner *et al.*'s (2011) categories, it is possible to find and to pursue a global line of learning within each category; the eater becomes a global player. It thus follows that sociocultural patterns with regard to food and nutrition are increasingly subject to global influences. Food is a 'global product'. Complex local and global structures of food production and food purchasing determine production and trade, and the situation of producers and consumers all over the world (Löbber *et al.*, 2013).

The educational content of nutrition education and consumer education (see point 1, above) and the educational aims of nutrition education and consumer education (see point 2, above) are defined for formal education in schools through established curricula. In Germany, such curricula lie within the competences of the state, as represented by the *Bundesländer* (federal states) and their education ministries (for example, the Ministerium für Kultus, Jugend und Sport, Baden-Württemberg) (see Pant, n.d.), and thus the state defines the content focuses of nutrition education and consumer education. Scheunpflug and Mehren (2016: 208) characterize 'school input such as subjects, [and] curricula' as one factor 'influencing effects and outcomes of school-based global learning'. To the extent to which global aspects are addressed in the state-defined nutrition and consumer education curricula, the state may support and emphasize global learning through learning in the fields of nutrition and consumer education.

Therefore, in the following part of this paper, the educational content in the new nutrition and consumer education curriculum in southern Germany (in this case the federal state of Baden-Württemberg) will be analysed according to the key questions: (1) Are global perspectives included in the new curriculum in nutrition and consumer education in public secondary schools in southern Germany, specifically in Baden-Württemberg in 2016/17? (2) In which way(s) are they included and positioned within the curriculum, and what is their main content focus? The aim is to consider and critique the global view within nutrition and consumer education in this new education framework.

Nutrition and consumer education in public state schools in southern Germany: Global perspectives in the curriculum of the new education framework

As of September 2016, a new education framework for all school subjects is being gradually introduced in the state secondary schools of Baden-Württemberg (Pant, n.d.; Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016b). The

Baden-Württemberg Ministry has drawn up a compulsory syllabus for nutrition and consumer education within a newly established interdisciplinary subject option for secondary schools (except *Gymnasium* academic high schools) called *Alltagskultur, Ernährung und Soziales* (Everyday culture, nutrition and social learning) for students aged 12 and above, that is, from Year 7 (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016a). The school subject *Alltagskultur, Ernährung und Soziales* replaces the subject groups and subjects that had addressed nutrition education in Baden-Württemberg before the 2016 curriculum reform. The syllabus of *Alltagskultur, Ernährung und Soziales* is based on the competences of the *REVIS* concept mentioned above, and on the international concept of consumer citizenship education (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016a). The curriculum defines competences, content and teaching focuses in nutrition, health, consumption and social learning (Angele, 2016).

Global perspectives in the new curriculum of nutrition and consumer education in publicly funded secondary schools in Baden-Württemberg in 2016/17 can be found in two parts of the *Alltagskultur, Ernährung und Soziales* syllabus: (1) in its basic ideas and its process-related competences and (2) in its content-related competences (see Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016a). The central global perspectives within these categories of the curriculum of nutrition and consumer education are outlined below.

(1) Global perspectives within the basic ideas and within the process-related competences of *Alltagskultur, Ernährung und Soziales*

The basic idea of the interdisciplinary subject *Alltagskultur, Ernährung und Soziales* is to empower young people for their present and future life in an increasingly globalized world. The process-related and the content-related competences they acquire will help them to live their lives responsibly and in a self-determined way with regard to issues of nutrition, health and consumption (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016a). This responsibility has two aspects: the individual's responsibility for him- or herself, and the individual's responsibility for society and the environment, namely local and global society and local and global environmental challenges (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016a).

The process-related competences comprise four areas of competence: acquiring insights, shaping communication, taking decisions and applying the former competences to shape daily actions (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016a). This series of process-related competences creates an impression of linearity: recognition, judgement, action. However, regarded critically, it is clear, as Hartmeyer (2012) notes in his considerations of the pedagogic dimension of global learning, that the complexity of global interconnections hardly permits such linearity. Thus understood, linearity may contradict the complexity of global learning content. The heart of global learning is rather, as discussed in the first section of this article, that learners acquire competences for coping with complexity (Asbrand and Wettstädt, 2012).

The school subject *Alltagskultur, Ernährung und Soziales* is also conceived as part of the main perspective of education for sustainable development, which the new education framework defines as a compulsory cross-disciplinary task for all school subjects (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg 2016a). According to the ministry, all school subjects in secondary schools should be involved

in education and learning processes for sustainable development (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg 2016a), but the framework does not posit global learning as a pre-eminent learning perspective. It is thus apparent, at least with regard to the main perspective of the education framework, that the focus lies more on the concept of education for sustainable development than on global learning.

With regard to Scheunpflug and Mehren's (2016: 205) definition of global learning ('a pedagogical response to globalisation'), it can be said that this notion is clearly apparent in the basic ideas and process-related competences of *Alltagskultur, Ernährung und Soziales*; the subject methodology also assumes that learning processes are initiated to prepare students to cope with complex and open-ended situations, and that the best-case learning scenario is one where the students organize themselves (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016a).

(2) Global perspectives within content-related competences of *Alltagskultur, Ernährung und Soziales*

Content-related competences with a global perspective are outlined in several fields. In the following, the focus is on two fields defined by the syllabus: nutrition and consumption. Table 1 shows some principal competences that open up global perspectives within *Alltagskultur, Ernährung und Soziales* in these two fields, focused as an example on Years 7 to 9 (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016a). Table 1 provides short summaries of essential content-related competences in the new curriculum for *Alltagskultur, Ernährung und Soziales* that refer to global learning goals. The table makes no claim to present a comprehensive overview of all the global perspectives in the content-related competences of the named subject.

As Table 1 shows, the content-related competences include strong emphases on global perspectives and references; they do address the given complex interrelations of everyday nutrition with its global implications. However, one must note that, for example, 'studies show that a focus on Global Learning content alone does not lead to expected outcomes like non-paternalistic, justice-oriented attitudes and behaviours' (Scheunpflug and Mehren, 2016: 216).

The main characteristic of content-related competences in the curriculum for nutrition and consumer education is the explicit reference to the sustainable development vision, as has been the case in concepts of global learning since the 1990s (Asbrand and Wettstädt, 2012). Nevertheless, within the framework of the nutrition and consumer education curriculum, it is not clear which notion of sustainability with regard to nutrition is taken as the base concept. From a subject-specific view, reference to the concept of sustainable nutrition, with its five dimensions, as proposed by von Koerber (2014) would be worthy of consideration.

When one examines the content-related competences against the background of the two significant conceptional global learning strands in the German-speaking world ('theory of action plans' as promulgated by Bühler (1996) and others, and 'evolutionary and systems theory approach' (Scheunpflug and Mehren, 2016: 212)), at some points normative aims can clearly be seen, as formulated in the theory of action plans, and from which the evolutionary and systems theory approach clearly distances itself.

Table 1: Summary of content-related competences referring to global learning goals

Years 7–9	Selected area of competence in the curriculum	Content-related competences with aspects of global perspectives in the curriculum
Nutrition	Eating diary (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016b)	Students are able to reflect on their eating habits, considering their own eating patterns in relation to, and in contrast with, other demands, for example sustainability.
	Knowledge of nutrition (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016b)	Students are able to compare eating habits with knowledge about a healthy and sustainable way of eating.
	Skills in food and meal preparation (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016b)	Students are able to plan food preparation, to prepare meals and to evaluate their actions using criteria of sustainability and appreciation of the importance of foodstuffs.
Consumption	Consumer decisions (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016b)	Students are able to describe, explain, discuss and evaluate the economic, social and ecological consequences of their individual behaviour as consumers.
	Consumption in the global context (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016b)	Students are able to reflect on the principles of a sustainable and responsible lifestyle by considering economic, social and ecological interrelationships, for example the production of goods in regional contexts. They are able to describe and to verify the value creation chain of selected consumer goods. They are able to detect inequalities in global trading relations, and to describe and discuss their local effects (for example, on working conditions, child labour, overproduction, low-priced products environmental effects).
	Sustainable actions (Ministerium für Kultus, Jugend und Sport, Baden-Württemberg, 2016b)	Students are able to evaluate their daily consumer behaviour using sustainability criteria, for example using the 'ecological footprint' principle.
		Students are able to use materials and school equipment in a sustainable way. Students are able to evaluate, choose and use consumables in a sustainable way, for example preferring organic products, Fair Trade products and recycled products.

The syllabus as defined by education policymakers can be regarded as a state instrument to facilitate or to shape global perspectives in education and learning processes, both in nutrition education and in consumer education. This is why one can say that the state, in this case as education policymaker, can promote – to a

greater or lesser degree – global awareness in nutrition and consumer education, and consequently regards nutrition and consumer education as a part of global learning, or at least as one of its content areas. However, the following aspect must be considered with regard to the general significance of school curricula for the implementation of pedagogical concepts such as global learning: ‘School input such as subjects, [and] curricula’ are regarded as one factor ‘influencing effects and outcomes of school-based global learning’ but ‘research on the conditions conducive to the implementation of Global Learning within school programmes and school activities is also a desideratum’ (Scheunpflug and Mehren, 2016: 208, 214).

Summary, and prospects for educational research in nutrition and consumer education as a part of global learning in publicly funded schools

The considerations in the second section of this article show that connections between nutrition and consumer education, and global learning can be understood at three levels from the didactical view of nutrition and consumer education: (1) with regard to the educational content of nutrition and consumer education that has an intrinsic global view; (2) concerning the educational aims of nutrition and consumer education in international concepts and (3) concerning subject didactics and study techniques that open up a global perspective in the current subject-didactic dimensions of nutrition and consumer education (Angele, 2017). Further research pursuing scientific discourse can discuss these three levels with experts in global learning to expand upon and deepen the existing connections in the content of nutrition and consumer education, and global learning from the point of view of both approaches.

Analysing the new curriculum for nutrition and consumer education in southern Germany, namely the subject *Alltagskultur, Ernährung und Soziales*, global perspectives are partially evident in the main ideas of the subject, in the process-related competences, and in the content-related competences. Comparing the thematic field of nutrition with that of consumption in the education framework (see Table 1), most of these global perspectives can be found in the field of consumption in general. This indicates that there should be a further focus on global aspects of consumption of food and nutrition, recording the eating patterns of individuals, as well as nutrition systems worldwide and globalized food trading systems. Furthermore, the need for healthy nutrition and food security for people all over the world, and the stark contrast between food surplus and over-nutrition in industrialized countries and lack of food in poorer countries could be more strongly emphasized within the education framework for nutrition and consumer education. Different diets and trends in diets should also be discussed, with a focus on health, sustainability and food security, for example considering meat-reduced diets, vegetarian diets and vegan diets. These further recommendations for curricular content can be justified from current academic subject-specialist approaches to sustainable nutrition, as offered, for example, by von Koerber (2014: 263), who formulates scientifically founded principles for sustainable nutrition: ‘(1) Preferences for vegetable produce (mainly lacto-vegetarian food), (2) Organic produce, (3) Produce from the local region, eaten in season, (4) Preference for less processed food, (5) Fair traded produce, (6) Resource-efficient housekeeping, (7) Enjoyable and easily digestible meals’. Including these aspects in the syllabuses of nutrition and consumer education would also make it possible to relate more strongly to the sustainable development goals, above all in relation to Goal 2, ‘zero hunger’, and Goal 3, ‘good health and well-being’ (United Nations, 2015).

From a theoretical point of view, the named competences (see Table 1) may facilitate young people's involvement in global issues of sustainable nutrition and food consumption, respecting the right to healthy nutrition and food security for all. So far, educational policy in southern Germany has given a signal to promote global perspectives in nutrition and consumer education based on current subject-didactic concepts such as *REVIS*. This progress is comparable with the development of global education in other European countries (Wegimont, 2012). Wegimont collates current important global education trends in Europe and concludes that the issues of global and development policy education are increasingly incorporated in the curricula of the federal states. Hartmeyer (2012) points out that, although institutionalization is an important dimension of the application of global learning in educational praxis, in the view of the Austrian strategy group for global learning, the ways in which the school system can respond to the challenges of global learning are limited.

One crucial question will be how schools can deal with global perspectives in nutrition and consumer education in practice. According to research, the influence on global learning of those who teach it is strong. For example, studies in the Netherlands 'confirm the central role of teachers' knowledge and motivation in adopting a global learning approach to their teaching practice' (Scheunpflug and Mehren, 2016: 215).

Accordingly, one could deduce that this also applies to global perspectives in nutrition and consumer education. On the one hand, this may be a matter of professional competences and teachers' awareness of the global interrelationships bearing on the subject content, namely in nutrition and consumption issues. Teachers study the subject 'Everyday culture and health' at universities of education in southern Germany. Nutrition education, health education and consumer education are the principal focuses of this subject at these institutions, but there is no research to date about the role of teachers of nutrition and consumer education in integrating global perspectives in nutrition and consumer education teaching praxis.

On the other hand, this may be a question of best practice projects with subject-didactic ideas to transform content-related competences in nutrition and consumer education, with their global perspectives on nutrition and consumption, into specific lessons. Examples of best practice should be developed to support teaching in nutrition and consumer education as a part of global learning. There is no up-to-date research on whether and how teaching materials for nutrition and consumer education include global learning aspects.

If, and how, teachers place nutrition and consumer education in a global perspective should also be a central topic of empirical educational research into nutrition and consumer education. A current exploratory study on nutrition education in primary schools in southern Germany shows that sustainability aspects are part of some lessons in nutrition education (Andersen, 2015). Andersen interviewed teachers in primary schools about their estimations of the importance of nutrition education and the practical application of nutrition themes and content at their school. Only some of the teachers interviewed regarded sustainability aspects as important. This makes it plain that there should be a long-term focus on global aspects of nutrition in school lessons, especially as nutrition education (in this case, in junior schools) is heavily dependent on each teacher's interest and commitment (Andersen, 2015). Therefore, it would also be helpful to know more about teachers' individual concepts and theories of nutrition and consumer education in general, and as part of global learning: do they regard nutrition and consumption of food as exemplary fields of global learning, and if so, how? And how are they able to transfer this concept into their daily teaching practice in nutrition and consumer education?

These questions should be part of empirically based educational research in nutrition and consumer education. So far, there is no such subject-didactic research in nutrition and consumer education with this specific focus. These questions may also be part of international educational research group cooperation in educational studies and subject didactics (Scheunpflug, 2012), in this case the subject didactics of nutrition and consumer education with global learning. The aim may be to produce further scientific findings about nutrition and consumer education within a global perspective, and as a part of global learning within school lessons in nutrition and consumer education.

Notes on the contributor

Claudia Angele has a PhD in pedagogy and a qualification as a university lecturer in nutrition and consumer education. She works as a lecturer in the Department of Everyday Culture and Health at the University of Education in Weingarten (Germany). Her teaching and research fields are nutrition and consumer education, health education and empirical educational research.

References

- Andersen, S. (2015) ‚Ernährungsbildung in der Grundschule: Eine explorative Studie zu Bedeutung und Umsetzung an ausgewählten Grundschulen‘. Unpublished thesis for the first state teaching examination, University of Education, Weingarten.
- Angele, C. (2016) *Ethnographie des Unterrichtsgesprächs: Ein Beitrag zur Analyse von Unterrichtsgesprächen über Differenz als Alltagserfahrung*. Münster: Waxmann.
- Angele, C. (2017) ‚Ernährungsdidaktik global‘. In Lang-Wojtasik, G. and Klemm, U. (eds) *Handlexikon Globales Lernen*. New ed. Ulm: Klemm und Oelschläger, 69–74.
- Asbrand, B. and Wettstädt, L. (2012) ‚Globales Lernen: Konzeptionen‘. In Lang-Wojtasik, G. and Klemm, U. (eds) *Handlexikon Globales Lernen*. Ulm: Klemm und Oelschläger, 93–6.
- Bartsch, S., Büning-Fesel, M., Cremer, M., Heindl, I., Lambeck, A., Lührmann, P., Oepping, A., Rademacher, C. and Schulz-Greve, S. (2013) ‚Ernährungsbildung: Standort und Perspektiven‘. *Ernährungs Umschau*, 60 (2), 84–95.
- Buchner, U., Kernbichler, G. and Leitner, G. (2011) *Methodische Leckerbissen: Beiträge zur Didaktik der Ernährungsbildung*. Innsbruck: StudienVerlag.
- Bühler, H. (1996) *Perspektivenwechsel? Unterwegs zu ‚globalem Lernen‘*. Frankfurt: IKO –Verlag für Interkulturelle Kommunikation.
- BVE (Bundesvereinigung der Deutschen Ernährungsindustrie) (2016) *Jahresbericht 2015–2016*. Berlin: Bundesvereinigung der Deutschen Ernährungsindustrie. Online. www.bve-online.de/presse/infothek/publikationen-jahresbericht/jahresbericht-2016 (accessed 28 November 2016).
- Dixey, R., Heindl, I., Loureiro, I., Pérez-Rodrigo, C., Snel, J. and Warnking, P. (1999) *Healthy Eating for Young People in Europe: A school-based nutrition education guide*. Copenhagen: European Network of Health Promoting Schools. Online. www.euro.who.int/__data/assets/pdf_file/0005/119921/E69846.pdf (accessed 18 September 2016).
- Eggert, S. and Bögeholz, S. (2006) ‚Göttinger Modell der Bewertungskompetenz: Teilkompetenz „Bewerten, Entscheiden und Reflektieren“ für Gestaltungsaufgaben Nachhaltiger Entwicklung‘. *Zeitschrift für Didaktik der Naturwissenschaften*, 12, 177–97.
- FAO (Food and Agriculture Organization of the United Nations) (2011) *Why Nutrition Education Matters*. Rome: Food and Agriculture Organization of the United Nations. Online. www.fao.org/fileadmin/user_upload/red-icean/docs/Nutrition%20Education_FAO_Concept%20note.pdf (accessed 15 August 2017).
- FAO (Food and Agriculture Organization of the United Nations), IFAD (International Fund for Agricultural Development) and WFP (World Food Programme) (2015) *The State of Food Insecurity in the World: Meeting the 2015 international hunger targets: Taking stock of uneven progress*. Rome: Food and Agriculture Organization of the United Nations. Online. www.fao.org/3/a-i4646e.pdf (accessed 21 November 2016).
- Hartmeyer, H. (2012) *Von Rosen und Thujen: Globales Lernen in Erfahrung bringen* (Erziehungswissenschaft und Weltgesellschaft 5). Münster: Waxmann.

- Heindl, I. (2003) *Studienbuch Ernährungsbildung: Ein europäisches Konzept zur schulischen Gesundheitsförderung*. Bad Heilbrunn: Klinkhardt.
- Heseker, H., Schlegel-Matthies, K., Heindl, I. and Methfessel, B. (2005) *REVIS Modellprojekt: Reform der Ernährungs- und Verbraucherbildung in Schulen, 2003–2005: Schlussbericht*. Paderborn: Universität Paderborn. Online. www.evb-online.de/docs/schlussbericht/REVIS-Schlussbericht-mit_Anhang-mit.pdf (accessed 19 September 2016).
- Löbber, R., Hanrieder, D., Berges, U. and Beck, J. (2013) *Lebensmittel: Waren, Qualitäten, Trends*. 5th ed. Haan-Gruiten: Europa-Lehrmittel.
- Methfessel, B. (2009) 'Anforderungen an eine Reform der schulischen Ernährungs- und Verbraucherbildung'. In Kersting, M. (ed.) *Kinderernährung aktuell: Schwerpunkte für Gesundheitsförderung und Prävention*. Sulzbach: Umschau Zeitschriftenverlag, 102–16.
- Ministerium für Kultus, Jugend und Sport, Baden-Württemberg (2016a) *Alltagskultur, Ernährung und Soziales (AES): Wahlpflichtfach (Gemeinsamer Plan für die Sekundarstufe I)*. Online. www.bildungsplaene-bw.de/site/bildungsplan/get/documents/lbw/export-pdf/depot-pdf/ALLG/BP2016BW_ALLG_SEK1_AES.pdf (accessed 18 February 2017).
- Ministerium für Kultus, Jugend und Sport, Baden-Württemberg (2016b) 'Implementierung des Bildungsplans 2016'. Online. www.bildungsplaene-bw.de/Lde/Startseite/Informationen/Inkrafttreten (accessed 18 February 2017).
- Pant, H.A. (n.d.) 'Einführung in den Bildungsplan 2016'. Online. www.bildungsplaene-bw.de/Lde/BP2016BW_ALLG_EINFUEHRUNG (accessed 17 February 2017).
- Ritterbach, U. (2014) 'Wie viel Ernährungs- und Verbraucherbildung braucht die Bildung für Nachhaltige Entwicklung? Indikatoren und ihre Interpretationen'. *Haushalt in Bildung und Forschung*, 3 (2), 24–35.
- Scheunpflug, A. (2012) 'Globales Lernen im Kontext internationaler Erziehungswissenschaft'. In Lang-Wojtasik, G. and Klemm, U. (eds) *Handlexikon Globales Lernen*. Ulm: Klemm und Oelschläger, 122–6.
- Scheunpflug, A. and Mehren, R. (2016) 'What do we know about global learning and what do we need to find out? A summary of empirical evidence'. In Hartmeyer, H. and Wegimont, L. (eds) *Global Education in Europe Revisited: Strategies and structures: Policy, practice and challenges*. Münster: Waxmann, 205–22.
- Schreiber, J.-R. (2012) 'Bildung für nachhaltige Entwicklung'. In Lang-Wojtasik, G. and Klemm, U. (eds) *Handlexikon Globales Lernen*. Ulm: Klemm und Oelschläger, 26–30.
- United Nations (2015) 'Sustainable development goals'. Online. www.un.org/sustainabledevelopment/sustainable-development-goals/ (accessed 18 February 2017).
- von Koerber, K. (2014) 'Fünf Dimensionen der Nachhaltigen Ernährung und weiterentwickelte Grundsätze: Ein Update'. *Ernährung im Fokus*, 14 (9–10), 260–6.
- Wegimont, L. (2012) 'Globale Bildung aus europäischer Sicht'. In Lang-Wojtasik, G. and Klemm, U. (eds) *Handlexikon Globales Lernen*. Ulm: Klemm und Oelschläger, 79–83.
- WHO (World Health Organization) Regional Office for Europe (2016a) 'Obesity'. Online. www.euro.who.int/en/health-topics/noncommunicable-diseases/obesity (accessed 17 February 2017).
- WHO (World Health Organization) Regional Office for Europe (2016b) 'Obesity: Data and statistics'. Online. www.euro.who.int/en/health-topics/noncommunicable-diseases/obesity/data-and-statistics (accessed 16 September 2016).
- WHO (World Health Organization) Regional Office for Europe (2017) 'Obesity'. Online. www.euro.who.int/en/health-topics/noncommunicable-diseases/obesity (accessed 17 February 2017).