Redefining action competence : the case of sustainable development

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Abstract

The concept of Action Competence (AC) has been interpreted in different ways in various domains of the educational sciences. Given the rising scholarly attention to AC, these diverse interpretations are problematic because they hinder a common understanding of the concept among scholars. We unravel the interpretation of AC as a competence of people versus that of an educational approach. We call the latter education for sustainable development (ESD), and discuss the approach as predominantly being a subjectification model of education. Furthermore, we offer an updated and refined generic definition of action competence as a competence of people. To this end, we develop an ecology of psychological concepts that underpin AC. We present a theoretical perspective based on the concepts of "action" and "competence", for stronger consideration of AC as a competence of people. We relate this generic concept of AC to concepts such as commitment, passion, knowledge, and self-efficacy for solving controversial problems. Finally, we introduce the specific concept of "Action Competence in Sustainable Development" (ACiSD) to articulate the competence of people to engage in solving sustainability issues.

Keywords

action competence, self-efficacy, passion, commitment, education for sustainable development

Introduction

The concept of Action Competence (AC) has been defined in different ways in various domains of the educational sciences. In the fields of environmental education (EE), health education, and education for sustainable development (ESD), diverse perspectives can be found concerning AC. Some view AC as a latent competence of people in favor of an overarching goal such as improved health or sustainable development (e.g. Chawla & Flanders Cushing, 2007; Clark, 2016), while others claim it should be considered as an educational approach (e.g. Ellis & Weekes, 2008). We aim to unravel this conceptual confusion by starting from the original definition by Schnack (1993b; as cited in Breiting, Hedegaard, Mogensen, Nielsen, & Schnack, 2009, p. 44), who introduced the concept in the field of political education in terms of the ability and willingness to be a competent participant.

In our current paper we redefine AC as a generic concept related to solving controversial problems in various domains. To this effect, we describe the ability of people (an individual or group of individuals) to act toward solving such problems. In this effort of refining the definition of AC we develop an ecology of psychological sub-concepts and their interrelations, which underpin the construct of AC. We thus offer an updated generic definition of AC as a competence of people or groups. With this contribution we hope to pave the way for the research community to further operationalize AC and develop research that can make use of the fruitful concept of AC. We also give an example of how this can be done within the domain of sustainable development (SD).

Aim of this Paper

The aim of this paper is fourfold. We first position ESD in a framework of ‘good’ education, describing it as a subjectification model oriented toward action taking in the section titled

Good Education: Purpose and the Need for Action. In the second section, titled *Problematizing the Concept of Action Competence*, we aim to conceptually explore the existing literature on AC and its subconcepts, and to unravel different interpretations of AC, distinguishing between AC as an individual/collective competence of people on the one hand, and an educational approach on the other. In order to avoid the confusion between the concepts 'action competence' and the 'action competence approach', we will refer to the 'action competence approach' as ESD, which aims at fostering AC within learners. Here, we will argue for considering the concept of action competence as a generic competence of people, that is not necessarily embedded in ESD, since it was developed within different fields, such as EE (Jensen & Schnack, 2006) and health education (Jensen, 2000). *Constructing a Generic Definition of AC as a Competence of Individuals or Groups* is the third section, which is devoted to our redefinition of AC. Finally, answering Jensen & Schnack's (2006) call for a further investigation on how AC relates to different fields, we discuss the case of action competence in the field of sustainable development in *AC and the Case of Sustainable Development*.

Good Education: Purpose and the Need for Action

In the ongoing discussion on what makes for good education, Biesta (2015) posits that the purpose of education should be a guiding principle. In Biesta's (2009a, 2009b, 2015) model of 'good' education, purpose consists of three functions, i.e. qualification, socialization, and subjectification. The qualification function concerns offering the knowledge, skills, and understanding so that learners can "do something" (Biesta, 2009b, p. 39). The socialization function focuses on fitting learners into an existing social, cultural, and political order. Contrary to the latter, the subjectification function supports learners in becoming autonomous and independent thinkers and agents (Biesta, 2009b). Consequently, when answering the question whether a certain approach to education can be considered good, we should look into

the underlying views about these three functions. The question to be answered then becomes what kind of qualification, socialization, and subjectification education should be directed at (Biesta, 2009b). Biesta (2009a) argues against a socialization that would lead to a reproduction of the existing socio-political order. Instead, he calls for a form of citizenship that is more critical and political in a ”sphere of plurality and difference” (Biesta, 2009a, p. 154). This is in line with concepts such as pluralism (Öhman, 2008), environmental political participation (Levy & Zint, 2013), and collective action competence (Clark, 2016).

Next to pluralism, an orientation toward action is another main principle in ESD, which is in line with Chawla's (2009) call for paying more attention to fostering action through education. According to Chawla (2009) action is called for in times when the natural world is at risk. Consequently, education should move beyond reproducing knowledge, values, and attitudes. Similarly, Eames, Cowie, and Bolstad (2008) posit that it takes more than knowledge, skills, and attitudes to facilitate behavior. Supporting students in taking action thus becomes one of the main purposes of education (Chawla, 2009; Eames et al., 2008). This focus on action can be viewed as the socializing aspect of ESD, which aims at introducing learners into a society that values active citizens. However, action is a behavior that is decided upon by who acts and directed toward problem solving (Jensen & Schnack, 2006). For this reason, education should empower people so they are well-informed and capable of taking action they decided on themselves. Contrary to the socialization aspect inherent in the action-focused orientation of ESD, this aim to empower rather than prescribe points toward a subjectification model of education. However, this reorientation of education from prescribing the 'right' behavior to equipping people with the necessary competence for taking action, proves to be a challenging task for schools (Boeve-de Pauw & Van Petegem, 2013; Olsson, 2018). In the field of EE efforts made by e.g. eco-schools often resulted in increased knowledge (e.g. Krnel & Naglič, 2009) or affected values rather than behavior (e.g. Boeve-de

Pauw & Van Petegem, 2011; 2013; Krnel & Naglič, 2009). Still, Swedish research found evidence for more frequent sustainability behavior, when education focuses on ESD principles of pluralism, which involves student-teacher co-decision on topics, critical thinking, and welcoming different points of view (Boeve-de Pauw, Gericke, Olsson, & Berglund, 2015). Rather than reproducing established norms, as is the purpose in a normative educational tradition, this notion of pluralism strives for students to form their own well-informed opinions and act upon them (Berglund & Gericke, 2018). Moreover, this inclusion of different perspectives within pluralism resonates with a call for ensuring quality education through ESD as expressed in policy documents of the United Nations (2015). After evaluating how much was achieved of the Millennium Development Goals, the United Nations drew up 17 Sustainable Development Goals (SDGs). The fourth goal in this list presupposes ESD and aims to 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' (United Nations, 2015, p. 17). In this, we see alignment between the UN document and the research findings we discussed above. Both argue in favor of inclusion and quality (United Nations, 2015) or good education (Biesta, 2009a, 2009b).

As mentioned above, good education looks into the purpose of education. We posit that the principles of pluralism and action as combined in ESD, offer possibilities for answering Biesta's (2009a) argument for a subjectification model of education as well as Chawla's (2009) call for a stronger focus on action. Indeed, the purpose of ESD is to empower learners (subjectification), so they are capable of developing AC (Breiting et al., 2009; Mogensen & Schnack, 2010). As such, ESD can be considered 'good education' along the lines of Biesta's (2009a, 2009b, 2015) model of purposeful education, while also focusing on action as called for by Chawla (2009).

Now that we have outlined how ESD can be considered an example of 'good' and action-oriented education, we will turn to unravelling different understandings of the concept of AC.

Problematizing the Concept of Action Competence (AC)

In what follows we problematize the concept of AC and explore how it is defined in the literature. First, we will describe the different understandings of AC as a competence of people and as an educational approach. In this, we will argue for redefining AC as a generic competence of people. Secondly, this section will describe how 'action' and 'competence' have been defined by the original authors within their conception of action competence. We will zoom in on 'action' and its implication for the quality of education in terms of being predominantly a subjectification model of 'good education', before looking into the definition of 'competence' within the concept of AC. For this, we draw from the seminal work of the Danish School (e.g. Breiting et al., 2009; Mogensen & Schnack, 2010; Jensen, 2000, Jensen & Schnack, 2006).

Action Competence: an Educational Approach or a Competence of People?

Since it was first introduced in the 1990s (e.g. Mogensen, 1997) the concept of AC has sparked different interpretations within the fields of EE (Jensen & Schnack, 2006), health education (Jensen, 2000), and ESD (Bonazzi Piasentin & Roberts, 2018). As Bonazzi Piasentin and Roberts (2018) pointed out, it has been understood by some as being an educational approach (e.g. Ellis & Weekes, 2008), and by others as a competence of individuals and groups (e.g. Chawla & Flanders Cushing, 2007; Cincera & Krajhanzl, 2013). In 2006, Jensen and Schnack repeated their call for a further discussion on the different subconcepts of AC in order to allow 1) the concept to become operational and 2) to find out what educational approach and content would help develop AC. In this call we discern the potential development of the original concept into a competence of individuals, as well as into an educational approach. However, this may also have been the source of confusion as to whether AC should be seen as an educational approach or rather as an individual or collective competence of people (Bonazzi Piasentin & Roberts, 2018). In line with e.g. Cincera and

Krajhanzl (2013), who tested students' action competence, we would argue for viewing AC as a generic competence of (groups of) individuals, because it can be considered as a desired learner outcome of a subjectification model of education within a societal context that values active citizens. Consequently, we will further explore the concept of AC in this way in what follows.

Exploring the Concept of Action and its Implications for the Quality of Education

Problem solving becomes wickedly challenging when the issue at stake is so complex that it gives rise to different views on how to solve or overcome it. The concept of 'action' engages with this kind of controversial problems (Hungerford & Volk, 1990). As such, it calls for a kind of education that empowers rather than dictates what should be accepted as appropriate behavior. If education is designed to equip people for finding solutions to such controversial problems, it will inevitably move away from normative traditions and favor pluralistic approaches that empower people.

As shown in table 1, which summarizes types of action, core features, and related concepts, 'action' is defined as a behavior that is voluntary, and targeted at bringing about change (Jensen, 2000) or solving a controversial problem (Breiting et al., 2009) or 'issue', i.e. something that is at risk and about which there is controversy on how to manage the necessary change (Hungerford & Volk, 1990). Action differs from mere behavior in that it is decided upon by the agents themselves, and from an 'activity' in that it is aimed at solving an issue. Since action involves "inner decision making" of who acts (Jensen, 2000, p. 148), it touches at a subjectification model of education. Whereas a socialization model aims at a reproduction of the existing socio-political order, a subjectification model is set to enhance political agency and critical citizenship (Biesta, 2009a). Thus, within the context of a society that is set to solve issues through citizen action amongst other things, ESD can be considered a subjectification model due to this aim of empowering and promoting a critical stance.

[Table 1 near here]

When the issue at stake is characterized by different, often even contrasting, opinions on how to solve it, individuals are confronted with the need for making up their own minds. SD issues qualify as such controversial problems, when contrasting environmental, social, and economic interests are pursued. Consequently, ESD is bound to move away from a normative tradition in which the purpose of education is to teach students about the 'right' sustainable behavior, presenting them with the required values and attitudes as outlined by experts and policy makers (Rudsberg & Öhman, 2010). As such, this normative approach would be in line with a socialization model, that aims at a reproduction of an established order (Biesta, 2009a). ESD is gradually moving toward a more democratic and 'pluralistic' tradition, that offers students the opportunity to find their own voice among different perspectives through deliberative conversations and the development of critical thinking skills (Hasslöf & Malmberg, 2015; Rudsberg & Öhman, 2010). Agents can then make well-informed decisions on which behavior they find adequate and are willing to perform, i.e. which action they want to take. This allows for a more volitional approach to (sustainable) behavior in the spirit of 'action' (Jensen, 2000). It is also in line with Biesta's (2009a) definition of political subjectification, which is set to promote political agency. This may lead to a critical and political form of citizenship (Biesta, 2009a), and to resistance to a societal order (Biesta, 2009b). In the field of EE, Levy and Zint (2013) conceptualized environmental political participation as all forms of action directed toward influencing environmental governance. The scale of environmental issues has not only called for individual action, but also needs collective civic action (Levy & Zint, 2013). Likewise, Ostrom (2014) argues for action at different scales, from 'the household to the globe' (p. 116), because all scales would also benefit from solving the severe threats they are faced with. Moreover, she points out that top-down initiatives from global or even national administrations suffer with some disadvantages. Firstly, they are likely to take

too long before they produce visible benefits. Secondly, they are prone to many counter-productive side effects such as free riding and a simple exportation from one location to another of behavior that produces more risk than it solves (Ostrom, 2014). Biesta (2009a) also argues in favor of collective rather than individual learning if citizenship education is to promote an active citizenship that allows conflict and contestation instead of being directed toward a status quo of the established order. Solution-directed collective action refers to the voluntary behavior of a group of people that is aimed at a common goal. Results from research evaluating a program for promoting action taking for human rights, equally found that participating students themselves were more inclined to take collective than individual action (Činčera , Skalík, & Binka, 2018). This needs a collective literacy and competence, i.e. skills and experiences (Clark, 2016). Furthermore, both individual and collective action can be direct or indirect. Direct action focuses on a direct contribution to solving the issue at stake, whereas indirect action seeks to make others contribute (Jensen & Schnack, 2006). The latter is comparable to proxy agency, i.e. when for example citizens try to get their legislative representatives to act on their behalf to achieve the desired outcomes (Bandura, 2001). Both types of action can occur in combination when indirect actions lead to direct actions. An example of such a combination is when activists induce politicians (indirect action) to implement a certain agenda aimed at mitigating climate change (direct action).

To understand what competence is required for action taking (see next section), we will first highlight features of action that are related to willingness, knowledge, skills, and trust in one's influencing possibilities and how this involves both individual and collective efforts. As mentioned before, action is volitional and targeted at solving an issue (Jensen, 2000). Consequently, it is a conscious and purposive behavior (Mogensen & Schnack, 2010) that requires forethought and intentional planning. Along with self-reflectiveness and self-reactiveness, forethought and intentionality or planning are two features of agency as

described by Bandura (2005). Forethought includes voluntary goal setting and a cognitive visualization of a future after actions will have been taken. The action gets direction and motivation through this anticipation of likely outcomes (Bandura, 2005). This is in line with visions of life in the (dreamed of) future world, a dimension of knowledge as put forward by Jensen (2000) when discussing action competence. Similar to the definition of action as being behavior that is decided upon by who acts (Jensen, 2000), forethought also involves a goal chosen by the agent (Bandura, 2005). Intentionality or planning concerns a proactive commitment. This involves action plans and strategies for making future actions happen (Bandura, 2001; 2005). It also requires insight in the circumstances in which the action will be performed, and knowledge of action possibilities (Breiting & Mogensen, 1999) that occur in the given circumstances (Jensen, 2000). When circumstances are such that management of the issue at stake is governed by a fast-evolving knowledge base, as in the case of e.g. SD, environmental, and health issues, a great flexibility to adapt decisions and actions to new insights is deemed necessary (Almers, 2013; Bandura, 2001). Consequently, (groups of) individuals have to be prepared to constantly reconsider their own previous interests, concepts, theories, values, and decisions on what action is necessary in order to solve the issue they selected (Almers, 2013; Mogensen, 1997).

However, this critical attitude is both required and problematic when considering action, as it may produce a discouraging effect. New insights may contradict previous knowledge. This means that a critical stance is paramount, not only toward different perspectives, but also toward one's own (possibly outdated) knowledge, insight, and previous actions. However, this may lead to a lack of motivation, when people feel the strategies they have used so far, turned out to be inadequate (Pelletier, Dion, Tuson, & Green-Demers, 1999). To counteract this possible feeling of discouragement, critical reflection has to go hand in hand with a "language of possibility". The latter involves an orientation toward finding inspiration in courses of

action that have proven successful in other times, places, and cultures (Mogensen & Schnack, 2010, p. 71). We posit that collective action, even on an international scale, may well be a potent tool for finding this language of possibility, courage, and inspiration. Current events that are spreading from Sweden, via Europe to Africa, Australia and the United States (and counting) with school children going on strike and marching in favor of more ambitious climate policies, seem to point in that direction (see for example coverage by The Guardian on 24 May 2019).

Competence in the Concept of Action Competence

Since the concept of AC was first introduced in terms of ”being able to (and wanting to?) be a competent participant” (Schnack, 1993b, as cited in Breiting et al., 2009, p. 44), different meanings of the notion competence have emerged. When competences are directed toward performing specific tasks, they have been defined as the ability to integrate knowledge, skills, and attitudes (e.g. Janssen-Noordman, Merriënboer, van der Vleuten, & Scherpbier, 2006). Contrary to this interpretation in the context of qualification for a specific job, leading to a socialization model of education, action competence refers to ”the need for relevant knowledge, will, skills and not least critical reflection, including values clarification” (Mogensen & Schnack, 2010, p. 63). When considering competence in a context of finding solutions to problems that entail controversy on how to solve them, competence asks for a different conceptualization than when it is directed toward performing a specific task that is well-outlined by others than the one who is to perform it. The competence is then aimed at a personal development that enables thinking about complex issues without getting stuck in preconceptions, prejudices, and unquestionable beliefs. Thus, it inevitably involves a critical attitude and the intention to take charge of personal and societal conditions (Mogensen & Schnack, 2010). Consequently, the development of AC aims at empowering people (subjectification), rather than serving the purpose of being qualified to perform adequately in

doing a certain job, or uncritically reproducing an established order (socialization). This emphasis on critical thinking is in line with Biesta's (2009a) argument for a critical and political form of citizenship. Thus, an educational approach that fosters students' AC, aims at enhancing confidence in their own influencing possibilities (Breiting et al., 2009), and developing their knowledge (Jensen & Schnack, 2006), courage, commitment, and willingness to engage in finding solutions to controversial problems (Breiting et al., 2009; Jensen & Schnack, 2006, Mogensen, 1997). Or, as Jensen and Schnack (2006, p. 472) put it: "They have to learn to be active citizens in a democratic society". As this involves democratic decision making in matters of collective issues, it involves social abilities that facilitate communication between subjects. The ability to approach an issue in a pluralistic way, i.e. taking different perspectives, views, and values into account (Öhman, 2008) fits such a context. Nevertheless, this social interpretation of 'competence' inevitably also involves a personal competence of individuals to view the world critically and to be self-reliant and autonomous.

In line with Breiting et al. (2009), and Mogensen and Schnack (2010), who distinguished social as well as personal dimensions of AC, the current paper aims to further conceptualize AC as a synergistic competence that can be expressed both at an individual and a collective level. Drawing from Bandura (2001; 2005), Biesta (2009a; 2009b), Breiting et al. (2009), Clark (2016), Jensen and Schnack (2006), Levy and Zint (2013), Mogensen (1997), and Mogensen and Schnack (2010), we will, however, define AC more generically, i.e. not embedded in a specific context. Thus, we start from the following (working) definition:

> action competence entails the willingness, commitment, knowledge, skills and confidence to engage in finding solutions to controversial problems or issues.

Constructing a Generic Definition of AC as a Competence of Individuals or Groups

Starting from the core features of AC as described by the Danish School (see Figure 1), we will finetune the definition of AC. To this effect, we will break down AC into the willingness/passion-commitment, knowledge/skills, and confidence/self-efficacy that are needed for taking an active part in a pluralistic approach to solving complex (collective) problems that involve controversy. In what follows, we will zoom in on each of these subconcepts of AC. Each part of this section ends with a summary of what the AC individual comprises for that part. Finally, an overarching definition of an AC individual will be presented verbally and graphically.

[Figure 1 near here]

Willingness in Relation to AC: the Passion and Commitment to Act

If knowledge is to lead to action, then individuals need to be passionate about contributing to finding a solution. This is in line with the required motivation, commitment, drive, and courage to contribute to bringing about change that was put forward by the researchers who first defined AC (Jensen, 2000; Jensen & Schnack, 2006). Because action is a volitional behavior, we argue that the motivation needed to perform it, should also come from within rather than being imposed by others onto who acts. This points toward autonomous motivation, which involves volition and choice by the individuals themselves (Vansteenkiste, Lens, & Deci, 2006). Moreover, this autonomous motivation should be strong enough to allow for the drive and courage needed in order to persevere notwithstanding possibly disappointing results of efforts made (Jensen & Schnack, 2006). Consequently, we would argue that if an agent is driven to act with 'willingness', this involves a strong and voluntary type of autonomous motivation and commitment that is consciously aimed at taking action in agreement with the norms and values of the agent(s). We posit that harmonious passion is such a type of motivation. It allows individuals to engage in an activity that they like and have

chosen for, whereas obsessive passion is a more (externally or internally) controlled kind of motivation (Vallerand et al., 2003). Still, both types of passion strongly lead to persistence when outcomes are felt to be beneficial. The difference between them lies in the rigidity of the persistence when outcomes are negative. When driven by harmonious passion, individuals are in control and can choose whether to persist or quit in case of negative outcomes. Obsessive passion does not allow for such choice. Here it is the passion that controls the individual, which leads to a more rigid, and less adaptive persistence (Vallerand, 2015; Vallerand et al., 2003). Whether a person develops harmonious or obsessive passion highly depends on the social context. When that context promotes autonomy, passion for a certain activity will evolve toward harmonious passion. A controlling environment will foster obsessive passion (Vallerand, 2015). Moeller, Keiner, and Grassinger (2015) argued, however, that both types of passion occur in alignment within individuals. They repeatedly found that individuals are either highly passionate or not passionate at all, showing high or low scores on both harmonious and obsessive passion. Moeller et al. (2015) aptly described both types of passion as 'two sides of the same coin'. When people are passionate about an activity, they dedicate considerable amounts of energy to it over a long period of time, sometimes even a lifetime (Vallerand et al., 2003), persisting in spite of obstacles and negative experiences (Moeller & Grassinger, 2013).

In line with Jensen (1997), we argue that it is this kind of strong motivation, commitment, drive, and courage that is needed for taking action, which is per definition targeted at solving an issue that is autonomously selected by who acts. Moreover, Moeller and colleagues (2015) also found moderate correlations between passion and commitment. The latter was conceptualized as consisting of intent, identification with the goal, and long-term goal setting. This led them to develop a commitment and passion model, in which the two concepts were combined as both explain behavioral persistence in goal-directed activities (Moeller &

Grassinger, 2013). Action involves autonomy and volition (Jensen, 2000), as well as persistence in the face of difficulties inherent in the issues to be solved. Since action is directed at solving challenging controversial problems, it requires a long-time dedication to maintaining efforts in order to do so, and well-informed planning (Jensen & Schnack, 2006). This is why we argue that the willingness, drive and commitment to take action can be understood as the commitment and passion to be involved as described by Moeller and Grassinger (2013). Following our contribution to what kind of motivation and commitment (Jensen & Schnack, 2006) is necessary for knowledge to be put into action, we will now turn to the question as to what knowledge is considered relevant.

Knowledge and Skills in Relation to Action Competence

According to Jensen and Schnack (2006, p. 473) ”competence is associated with being able, and willing to be a qualified participant”. Consequently, individuals who are committed and passionate about taking up responsibility in solving controversial problems, need relevant action-oriented knowledge and skills in order to be the ”qualified participants in democratic processes” (Breiting et al., 2009, p. 57) these issues call for. This means that both knowledge about the issue and societal knowledge about democratic processes are involved, each with the skills required for acquiring such knowledge and acting upon it.

Action is directed at complex and controversial problems. Therefore, knowledge about the many (interrelated and possibly conflicting) aspects of such issues is needed in order to deal with them competently. This knowledge should be coherent (Jensen & Schnack, 2006) as well as flexible (Almers, 2013; Bandura, 2001; Mogensen, 1997). This means that knowledge from different fields should not exist in a fragmented fashion, but needs to be understood as an interconnected whole, while the learner should also be flexible enough to adapt their knowledge when new (possibly contradicting) knowledge emerges. Therefore, qualified agents know how and where to find relevant and accurate information. Issue-related

knowledge includes information about the core features of the issue, such as its origins (Jensen & Schnack, 2006), causes, effects, and who is involved and affected (Jensen, 2000). Also knowledge of action possibilities for solving the issue is required (Breiting et al., 2009; Breiting & Mogensen, 1999; Jensen & Schnack, 2006). In order to gain such knowledge, a clear view of what desired future conditions the agent(s) want to act toward is needed to give direction to the actions that are undertaken. Consequently, the action competent individual is skillful at envisaging the future (Jensen & Schnack, 2006; Bandura, 2005). Next to issue-related knowledge and knowledge of action possibilities, agents need to know about current norms at a societal as well as at an individual level (Breiting et al., 2009). This points to the need for a level of self-reactiveness that allows them to compare both societal and personal sets of norms and standards (Bandura, 2001). This should allow alignment of actions with personal and societal norms, that may call for a critical stance toward ruling norms in society as well as toward personal norms. Consequently, critical thinking is a required skill for action-competent individuals (Jensen & Schnack, 2006). This involves reflection, since the individual should also be capable of scrutinizing their own rationale in order to be able to argue for a point of view, or preference for a certain action (Breiting et al., 2009). This, we would argue, is in line with Bandura's concept of self-reflectiveness, i.e. the "metacognitive capability to reflect upon oneself and the adequacy of one's thoughts and actions" (Bandura, 2001, p. 10).

From the discussion on knowledge and skills related to AC as depicted above, we conclude that the action competent individual knows where to find knowledge concerning the issue and action possibilities for solving it. Moreover, they are critical thinkers, i.e. (self-)reflective and willing to share their arguments for points of view and preferred actions. They are willing and capable of considering alternatives and adapting their behavior to newly found insights. Finally, they are capable of envisaging a desired future situation and anticipate outcomes.

Now that we have explored the AC dimensions of willingness, knowledge, and skills, we will turn to the dimension of confidence.

Confidence and Self-efficacy in Relation to Action Competence

In order for knowledge to lead to action, individuals need the willingness and the confidence to engage. This entails confidence ”that they can apply skills successfully” (Chawla, 2009, p. 7) as well as confidence that their actions will produce the outcomes they anticipated (Bandura, 1997) and that they have good influencing possibilities (Breiting et al., 2009). According to Bandura (1997) this outcome expectancy, i.e. the belief that a given behavior will produce the desired effect, is affected by efficacy expectations. The latter is the agent's confidence that they are capable of performing that behavior (Bandura, 2001). Consequently, people will engage in action if they have confidence in their capacities to perform the necessary behavior (mastery) and believe that the action, when successfully performed, will contribute to solving the issue at stake. That confidence in their mastery then determines whether the agent will start and persevere in performing the action even when facing obstacles (Aguilar, 2018; Bandura, 1997). This effect of personal efficacy was noted both at an individual and a collective level by Aguilar (2018), while Chawla and Flanders Cushing (2007) also found that personal efficacy of individuals enhanced efficacy at group level and vice versa.

At a societal level Levy and Zint (2013) distinguish between internal and external (political) efficacy. More specifically, internal efficacy regards the individual's confidence in their own understanding of politics and their competence to take part in political action, while external efficacy regards confidence in their capacity to influence governmental decisions (Miller, Miller, and Schneider, 1980 as cited in Levy & Zint, 2013). Based on their review of literature on political participation, Levy and Zint (2013) put forward a framework of hypothetical factors related to fostering environmental political engagement and participation. In this

framework they included environmental internal and external political efficacy, which they did not further define. We interpret environmental internal political efficacy as an individual's confidence that they understand environmental politics and can contribute to environmental political action as a competent participant. Likewise, it can be inferred that environmental external political efficacy is the individual's belief that they can influence political decisions concerning the environment.

From the above, it is clear that the confidence needed for people to take action involves two features of self-efficacy. One feature is the confidence of being capable to perform an action, which is related to Bandura's (2001) capacity expectation. The second feature concerns the confidence that the action, once performed, will produce the desired effect, which draws from Bandura's (1997) outcome expectancy.

Based on what we have now established concerning the subconcepts of AC, we propose to (re)define the action competent individual as shown in Figure 2:

> Someone is action competent when they are committed and passionate about solving a societal issue, have the relevant knowledge about the issue at stake as well as about democratic processes, take a critical but positive stance toward different ways for solving it, and have confidence in their own skills and capacities for changing the conditions for the better.

[Figure 2 near here]

Action Competence and the Case of Sustainable Development

We will now discuss AC in relation to a specific issue, i.e. SD. As the issue at stake is related to SD, we propose to refer to the competence as Action Competence in Sustainable Development (ACiSD). Because AC gains specificity through the specific issue to be solved (Mogensen & Schnack, 2010), the question is then what commitment, passion, knowledge,

skills and self-efficacy are required for this type of AC to occur. In what follows, we will describe how we propose to interpret a specific form of AC (ACiSD) through our newly introduced generic definition of AC.

When considering ACiSD, the action is targeted at solving an SD issue. We understand SD as a process in which socio-cultural, environmental, and socio-economic perspectives are integrated and mutually interact (UN, 2015). We also consider the peace and partnership aspects that were additionally inscribed in the 17 Sustainable Development Goals (SDGs; UN, 2015). SD problems are controversial in that they are often characterized by opposing interests. As such, they comply with the kind of problem that action typically aims to solve (Breiting et al., 2009; Hungerford & Volk ,1990; Jensen, 2000). In line with our definition, action competent people are not only committed to and passionate about engaging in solving an SD issue. They also wish to take responsibility for themselves as well as for others. This involves a willingness to explain their point of view and the action(s) they decide to take. Considering SD issues and their possible solutions, this means that standpoints have to be made clear on which interests prevail and why in a certain set of circumstances. In other words, action competent agents are willing to make explicit *which* dimensions of SD are targeted, *how* that affects other aspects, and *why* they give preference to the interests of one dimension over another. This implies that these individuals are able to acquire and construct a coherent knowledge base on the SD issue at stake, including knowledge about origin, cause, effect, and stakeholders. Given the interrelatedness inherent in SD issues (UN, 2015), this requires systems thinking competence from the agent(s), which allows them to detect how change in one dimension (has) influenced and may influence the others (Wiek, Withycombe, & Redman, 2011; Wiek, Withycombe, Redman, & Mills, 2011b; Wiek et al., 2015). They also need to have knowledge of democratic environmental political decision-making processes, and visionary and critical thinking skills. Envisaging the future allows individuals

to create a vision of the future as it may emerge if nothing changes and compare that to a vision of a more sustainable future that would result from their action for sustainability.

Because SD issues affect communities - local, regional or global - solutions often ask for collaboration at a smaller or larger scale. This collaborative aspect requires people skills, i.e. the skills needed to communicate to and collaborate with others. However, it also offers possibilities for reflection on differences between cultures and periods of time concerning finding solutions to SD issues and the norms that underly the choices involved (Mogensen & Schnack, 2010; Wiek et al., 2011). A critical reflection on different personal and cultural perspectives, may enhance creativity and broaden knowledge of action possibilities. Moreover, (international) collaboration may make up for competences that are problematic on an individual (or local) level. A competence that one person or community is missing, can be found in another participant in collaborative action. Here, we seem to detect opportunities that arise from the global dimension of certain SD issues such as climate change.

Looking at recent developments in the school-strike actions of high school students that have gone international, the global dimension that is often perceived as highly problematic, may also offer opportunities for broadening the agents' perspectives. This involves being willing to compare personal (cultural) standards and norms to those of other people(s) and cultures in order to adjust (collective and personal) choices for action toward solving SD issues. Moreover, this may add an aspect of optimism and creativity to the critical stance of the action competent agent, when students learn to be empathetic and respectful toward other ways of thinking. Thus, they can gain an "optimistic vision of potential" (Mogensen & Schnack, 2010, p. 71). As a group, people may feel more capable of finding solutions to SD issues. This can, in turn, enhance their feelings of personal self-efficacy (Chawla & Flanders Cushing, 2007) when facing the complexity of solving SD issues.

In sum, ACiSD consists of a balanced combination of personal and interpersonal competences. The personal competences entail a passion for SD, a commitment to finding solutions, knowledge about the SD issue and action possibilities, a holistic understanding of SD (systems thinking), visionary and critical thinking, and a positive feeling of personal capability and possibilities for exerting influence. Interpersonal competences add a willingness to provide arguments for the choices suggested, openness to other people's and cultures' perspectives, communication skills that enable collaboration, and confidence in the capability of the team and in the effects of collective pro-SD action.

Concluding Remarks, Discussion, and Suggestions for Further Research

This paper aimed to further explore the subconcepts of AC. The subconcepts willingness, knowledge, skills, and confidence in one's own influencing possibilities (e.g. Breiting et al., 2009) were further conceptualized. We redefined willingness as the commitment to and passion for solving an issue. This involves acquiring the relevant knowledge about the issue as well as about democratic processes (knowledge), and taking a critical but positive stance toward different ways for solving it (skills). Also confidence is required for AC. People do not only need to feel confident in their own influencing possibilities, but also in their personal and collective capacities for changing conditions for the better. Moreover, we distinguished between AC as an individual/collective competence of people and an educational approach. We have argued for interpreting AC as a generic competence of people and have referred to ESD as an approach that aims at fostering AC. Answering Jensen and Schnack's (2006) call for further investigation on how AC relates to different domains, we have discussed the concept in the context of SD. Thus, we have introduced the concept of Action Competence in Sustainable Development (ACiSD) when discussing AC as an individual or collective competence of people focused on solving SD issues.

We have further argued that ESD can be considered a subjectification model of education, because it aims at providing students with the experiences needed to become self-reliant, well-informed decision makers. Consequently, ESD is directed at supporting students in developing the necessary ACiSD, i.e. the commitment, passion, knowledge, and self-efficacy for taking part in solving SD issues. However, the socialization process lies in the introduction into a democratic society that welcomes active and optimistic citizens. Ideland (2016) cautions for an exclusion of the apathetic, pessimistic 'other', which is inherent in this socialization process. Still, Hasslöf and Malmberg (2015) warn against a purely fact-based approach to ESD 'for fear of indoctrination' (p. 240). The complexity of the issues at stake and the speed with which new knowledge is created, may indeed argue against such an approach. In line with the pluralistic stance inherent in the concept of ESD, however, future research on AC may warrant focusing on a wider variety of cultural settings. Meanwhile, being explicit in mentioning the premise of valuing a rationale based on scientific reasoning, may meet this preoccupation.

Another concern to be addressed is the overwhelming set of skills and competences the 'super human' action competent individual should exhibit. Wiek and colleagues (2011) see solace for this in considering this at a collective level. When the necessary competences are available in the group, not every member needs to possess all qualities. On an individual level, it then suffices to find a balance between specialization and generalization, dependent on level of education (Wiek et al., 2011) and age. Further research may want to look into how AC emerges within children. In order to do so, we feel that research is needed on how AC can be operationalized with e.g. different age categories in mind. In this article we have outlined the conceptual ecology that underpins AC as a concept, and in further studies of AC this ecology of sub-concepts can be operationalized into research instruments developed for AC related to different controversial problems such as SD and health issues. In this paper we have

exemplified AC in relation to SD. In line with this novel conceptualization of AC, further research could investigate how the different dimensions of AC relate to each other. These efforts can now draw from our contribution to a further conceptualization of the action competent person as:

> someone who is committed and passionate about solving a societal issue, has the relevant knowledge about the issue at stake as well as about the democratic processes involved, takes a critical but positive stance toward different ways for solving it, and has confidence in their own skills and capacities for changing the conditions for the better.

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Figures 1 and 2

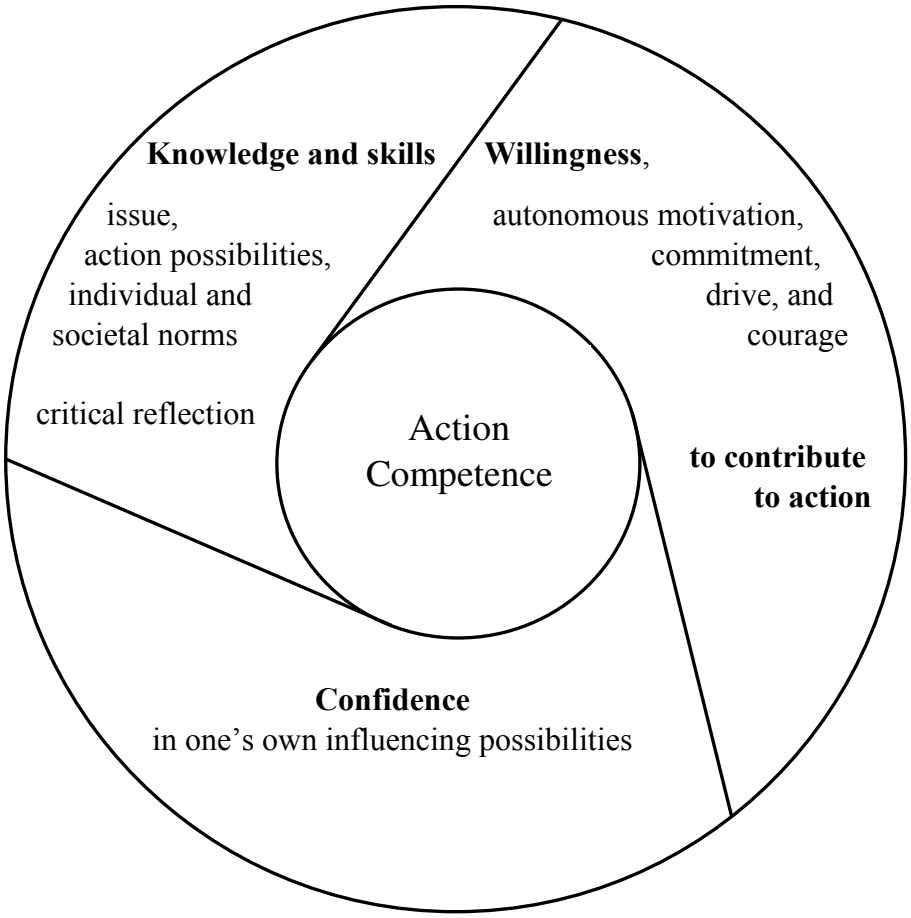

Figure 1 Core features of action competence based on Breiting et al. (2009), Jensen (2000), and Jensen & Schnack (2006)

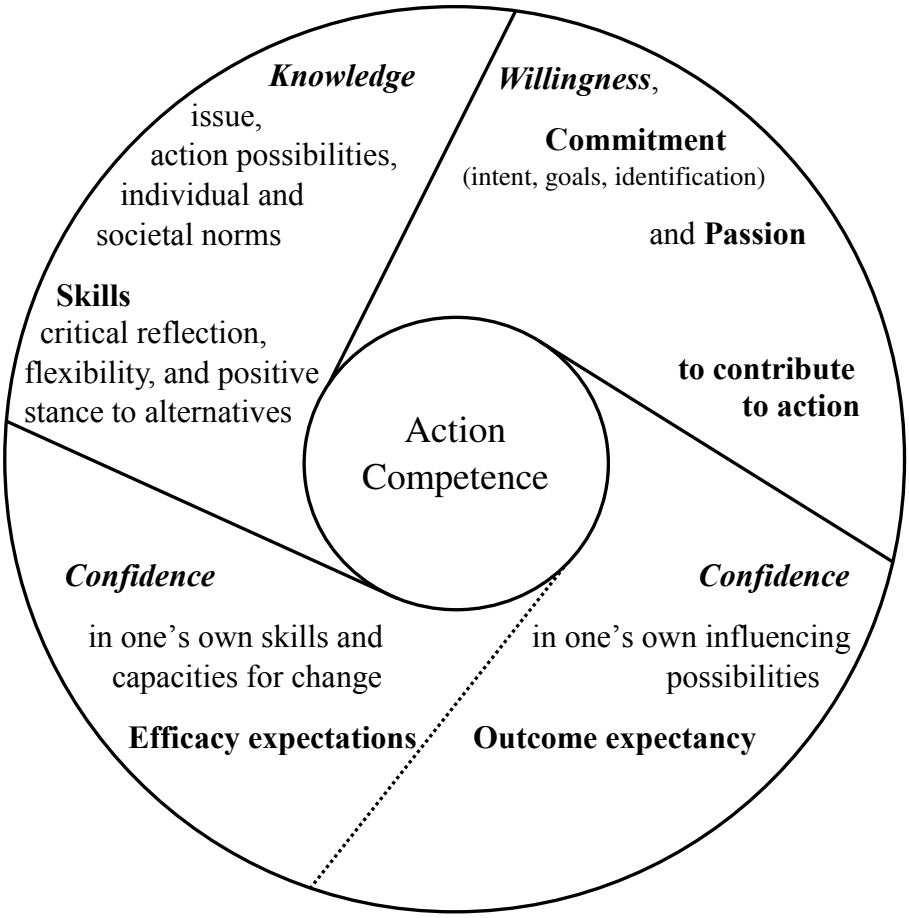

Figure 2 Core features for an action competent individual as generically redefined in this study

Table 1

Table 1 *Summary of types of action, core features, and related concepts*

Types of action	Core features	Related concepts
action (Jensen & Schnack, 2006)	- voluntary, decided upon by the agent (e.g. Jensen, 2000; Mogensen & Schnack, 2010) - directed at solving an issue (e.g. Breiting et al., 2009; Hungerford & Volk, 1990; Jensen, 2000)	- agency (goal chosen by the agent; Bandura, 2005) - (political) subjectification model (Biesta, 2009a; 2009b); - pluralism (Rudsberg & Öhman, 2010); - critical thinking skills (Hasslöf & Malmberg, 2015; Rudsberg & Öhman, 2010) - envisaging the future (Jensen, 2000) - purposive behavior (Mogensen & Schnack, 2010) - forethought (Bandura, 2005); - intentionality (Bandura, 2001; 2005)
direct and indirect action (Jensen & Schnack, 2006)		- proxy agency (Bandura, 2001) - environmental political participation (Levy & Zint, 2013)
individual and collective action (Clark, 2016)		- collective civic action (Levy & Zint, 2013)