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Research Report

Trouble making? Addressing irritation in innovativeness education

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Keywords: education for innovativeness, queer pedagogies, geography education, trouble making, irritation in education

- Innovation education is not compatible with a queer pedagogical approach.
- Innovativeness education and queer pedagogies are theoretically compatible.
- Being in trouble and making trouble might help to initiate an ongoing innovation process.
- Trouble making and irritation can be useful for innovative education and fostering innovativeness as an ability.

Purpose: The aim of this contribution is to research assumptions of the education for innovativeness approach within a queer theoretical notion of pedagogy and to discuss im/possibilities of the approach in the framework of Geography and Economic education.

Approach: This article explores intersections between the approaches of queer theories and the theory of education for innovativeness by focussing on the potentials and limitations of trouble making as a starting point in innovativeness education in the secondary education sector.

Findings: If we consider trouble making and irritation within an education that fosters innovativeness, we could expand education by focusing the power structures that manifest themselves within innovation processes and education.

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1 INTRODUCTION

"I came out as gay to my class with homophobics in it… going good so far, stay strong out there :)" (Source *Queering the Map*, a pinpoint in Vienna/Austria, see Fig. 1)

Figure 1: Quotation from a place pinpointed in the Queering the Map project. Source: Queering the Map (n.d.).

This quotation is taken from the *Queering the Map* project. The short text tells readers that somebody outed him- or herself amid concerns about sexual diversity. Because there seem to be "homophobics" in this specific class in Vienna/ Austria, this outing was probably irritating to others in the class. There is no doubt that the person had difficulties with outing him- or herself and because of that, he or she caused some trouble by demonstrating resistance to classmates' attitudes by so questioning gender normativities. This trouble is caused, because apparently a hegemony is questioned. By using the project map like this person, other people can be encouraged to be irritating and get in trouble. This paper will discuss (im)possibilities of such trouble making and according to aspects of irritation as a starting point for innovation processes in the framework of Geography and Economic Education based on queer theory.

The *Queering the Map* project is an example of how normativities and hegemonies can be questioned. It outlines the (im)possibilities of irritation when trouble making is taken into practice. The development process of the project is interesting in terms of trouble making and of the possibilities and impossibilities of queer ideas. It is an open-sourced "community-generated mapping project that geo-locates queer moments, memories and histories in relation to physical space" without further explanations about what was posted and why (*Queering the Map*, August 2019). Accordingly, the mapping project itself relates to irritation, as well. Initially, there was hardly no restriction on what can be posted and why. The project was developed by Lucas LaRochelle and can be seen as an

innovation. Many people joined and although there is no background calculation in the platform to count the map features, the map itself creates an impression because of the sheer density of the points given. Probably, the initial aim was not to intentionally irritate but – as furtherly discussed in detail – the project became irritating when messages supporting the (former) U.S. President Donald Trump emerged. In this context, 'irritation' means questioning certainties and one can find many statements like the one above that can be discussed within a perspective of irritation and trouble making. Furthermore, the mapping project enables people to encourage others to be irritating and get in trouble. When I read examples like this particular quotation, I started thinking about whether the powerful impacts of trouble making could be a starting point to rethink the notion of calls for innovations within Geography and Economic Education: an approach that includes trouble making as a reasonable enhancement for innovativeness education within this subject area[1].

What are the specifics of innovation/innovativeness within the school subject Geography and Economic Education? If we think about demands for innovation within education, innovation and innovative education seem to be equal with innovation in teaching (Jekel et al. 2015; Krohmer & Budke 2018; Gonzalez & Donert 2014), but it is doubtable whether methodological innovation necessarily enables students to be innovative, i.e., to develop innovative solutions for (future) challenges. Following Gryl (2013, p. 17), we can argue that the goal of education is to foster abilities to participate in society and actively shape one's life. Specifically, within Geography and Economic Education, we have the possibility to analyse innovations and we can recognize and reflect on possibilities of and needs for innovations within society (ibid., p. 20). Taking this seriously would mean developing further pupil-centred and life-oriented approaches in education. I argue that approaches inspired by queer theory help teachers to think about how to foster innovativeness both within and for education, including thinking about power relations.

The link to trouble making as a useful approach is inspired by Judith Butler's preface to her study *Gender Trouble – Feminism and the Subversion of Identity*. She starts by discussing why trouble is regarded as problematic and where the potentials of trouble making may lie (Butler, 1990, p. vii). I would like to take trouble making as a starting point to discuss the potentials and limitations of intersections between ideas taken from queer theories and a theory of education for innovativeness in (social) geography and economics. To do so, I explore whether trouble making as a queered approach within Geography and Economic Education could be appropriate within education for innovativeness that moves away from a solely neoliberal paradigm for innovation. This would, as discussed below in detail, ignore non-commercial innovations and does not necessarily foster a broader approach to general education that is pupil-centred or life-oriented.

This paper comprises four main parts:

- discussion of the (ideal or typical) theoretical key assumptions of education for innovativeness in Geography and Economic and trouble making (contextualized in feminist and queer theories);
- llustration of the key assumptions of these two theoretical approaches with examples from a queer mapping project;
- examination of how to apply the theoretical assumptions in practical considerations;
- summary and reflection on the potentials and limits of a queer approach within education for innovativeness.

2 INNOVATION EDUCATION AND EDUCATION FOR INNOVATIVENESS

To begin, I explore the key assumptions of an education for innovativeness (Weis et al., 2017) in contrast to approaches of innovation education (Shavinina, 2013). To do so, a clear definition of innovation in education is needed to implement ideas from queer theory and education focusing on trouble making and irritation.

If educators, representatives of industry or politicians call for innovations in school education, we must ask what innovation means for them. Do such calls for innovation a) serve interests of general education and/or b) foster innovativeness? A content analysis of 50 papers on geomedia education "mentioning the keywords innovation, inventive and innovative" (Jekel et al. 2015, p. 377) published between 2007 and 2014 focussed on the question, whether education helps students to reinvent the world in Geography and Economic Education. Based on textual analysis of the literature (ibid.), the authors created four categories for different levels of innovation and innovativeness for students and two categories concerning the teachers. The scale started with "innovative technologies on the pupils' level" and ascended to "fostering innovativeness for pupils". Jekel et al. found that while authors published many ideas for adopting new technologies in classrooms, there were very few examples of how to foster innovativeness as such (ibid.). The study considered that only the pursuit of a critical-emancipatory teaching approach – understood as aiming for practical and political self-reflection (Vielhaber 1999) – fosters innovativeness. But there was hardly no link to student-oriented and emancipatory educational aims. It is important to take this lack seriously and to think about ways to link innovativeness and pupil-centred educational approaches – perhaps by adopting the attitude of the person quoted at the start of this paper. So what would it mean to be innovative or to foster innovativeness for students and why is it desirable to foster innovativeness in Geography and Economic Education specifically?

As already mentioned, Gryl (2013, p. 17) suggests that Geographic and Economic Education should support learners to be innovative, because being innovative fosters empowerment and allows participation in society, which is a normative (humanistic) ideal of education. Thus, educational content and competences are needed that enable the participation in developing (a future) society and improving democracy and human rights.

The following comparison outlines key assumptions of learning and innovation in innovation education (Shavinina, 2013) and in an education for innovativeness (adapted from Gryl, 2013; Weis et al., 2017a&b; Weis, 2016; Jekel et al., 2015):

Tab. 1: Key assumptions of innovation education and education for innovativeness. Own presentation based on Shavinina, 2013 and Gryl, 2013; Weis et al., 2017a&b & Weis, 2016, Jekel et al., 2015.

Ideal or typical key assumptions	"Innovation education" (Shavinina, 2013)	"Education for innovativeness" (Gryl, 2013; Weis, 2016; Weis et al., 2017a; Weis et al., 2017b; Jekel et al., 2015)
definitions of innovation	"the implementation of ideas into practice in the form of new products, processes and services" (p. 31)	"innovations are connoted positively and aim at improving present circumstances" (Gryl, 2013, own translation)
aim	"transforming child talent into adult innovation" (p. 30)	"enabling [the shaping of] the lifeworld" Weis et al., 2017b, p. 386)
role of learners	"be aware of scientific and technological breakthroughs, as well as to develop an advanced scientific thinking and technological state of mind" (p. 31)	develop "the ability to participate in the innovation process" (Weis 2016, p. 35)
role of educators	"develop their [children's] unique innovative talents" (p. 30) "helping children become adult innovators" (p. 30)	empowering students (Weis et al., 2017a)
structures / features	education programs for the gifted, science and technology education, entrepreneurial giftedness, metacognition in action, ability to implement things, polymathy or multiple giftedness, applied wisdom and moral responsibility, developing managerial talent: lessons from great managers, deadline management, basics of innovative science, courage, high intellectual and creative educational multimedia technologies, general and specific characteristics of HICEMTs[2]	fostering three sub-abilities of innovativeness: "reflexivity, creativity and implementivity" (Weis et al. 2017a, p. 213) inventing problems, turning a situation into a problem to be solved (Jekel et al., 2015)
focus	strongly result-oriented	strongly process-oriented
normative tendency	neoliberalism	humanism

Both approaches share the focus on students as (future) innovators, rather than interpreting innovation in education as innovations in teaching (Shavinina, 2013, p. 30; Weis et al., 2017a&b). A critical look at the specific definitions of innovation and further aspects reveals differences in aim, role of learners, role of teachers, features to foster abilities, focus and normative tendency. While the definitions of innovations have clear parallels and both refer not only to products but also to something that improves something else, the ideal or typical aim and the roles of learners and educators in the approaches differ. While education for innovativeness focusses on students being part of innovation processes concerning everything that helps "to shape the lifeworld" (Weis et al. 2017b, p. 386), innovation education refers to innovative future adults and aims at students being aware of scientific and technological breakthroughs. They appear to be put in a passive position until someone else invents something, instead of being active themselves. "[S]cientific thinking and technological state of mind" (Shavinina, 2013, p. 31) might be useful for some innovation processes, but whether a belief in (solely) technical solutions for actual and future challenges helps, can be questioned.

Further differences become obvious if we take a closer look at various features and the focus of the approaches. Innovation education focusses on programs for 'gifted' students (Shavinina, 2013, p. 30) or is subsumed into entrepreneurship education, focusing on the entrepreneurial giftedness of so-called great managers and successful entrepreneurs. This focus seems to address educational needs for a specific, elitist group of pupils instead of educational needs of the whole educational system. Shavinina (2013) provides Richard Branson, Bill Gates and Jeff Bezos as examples. She further addresses social implications of innovations, or "applied wisdom and moral responsibility" (ibid. p. 38):

- "He has always given a lot to charities and founded his own not-for-profit foundation." (ibid.)
- "[Prominent innovators] feel personal responsibility for the future of our planet. Thus [Bill Gates] […] gave almost all his fortune to the […] Foundation being convinced that they are doing great things in Africa and other poor regions of the world" (ibid.).

These examples draw an outline of a world in which social awareness and equality seem to be optional extras, not requirements, when bringing up innovations. Not questioning the system itself and its hegemony shows a conception of social awareness that fits Harvey's (2005, p. 2) definition of neoliberalism: "Neoliberalism in the first instance is a theory of political economic practices which proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework". This definition can be extended by quoting Weiner (2003, p. 23): neoliberalism is not only an economic but also a "political and cultural system that requires a certain level of political docility, social cynicism and economic fatalism on behalf of its constituencies to maintain its hegemony."

Some aspects of 'innovation education' represent an education for future entrepreneurs within a neoliberal tendency. "Deadline management" training is an obvious example. Improving deadline management, Shavinina (2013) argues, is needed because of the "time needed to develop it [an innovation], to introduce it to the marketplace and so forth" (p. 39). There seems to be a lack of potential for any broader notion of innovation because market dependency needs to be complied with. The needs of individuals, society and ecological nature tend to be not considered; innovations are thought about in terms of their potential for generating monetary profit. In neoliberalism, "innovation is about commercialisation and what is at stake, ultimately, is the need to rally the whole society behind this goal" (Ampuja 2016, pp. 24–25). This focus on integrating innovation in the marketplace shows a tendency to commercialize innovations. Therefore, this conception of what it means to be innovative is highly exclusive: it excludes people from taking part in innovations and innovation processes. We could (and should) question, whether a neoliberal tendency in education around innovation could ever be innovative, given that the system does not allow transgression in terms of questioning the hegemony of the concept itself. These aspects combined with the definition of innovation also emphasize a stronger result-oriented perspective of innovation education.

A normative neoliberal tendency is not necessarily an inherently bad thing in education, but a broader notion within education of innovation and questioning hegemonies (as further explained in the context of queer theories) can be considered to have a greater potential. The strength of innovation education lies in developing abilities in becoming a future innovator within technology and science (Shavinina 2013). Innovation education therefore offers a diverse set of programs that specifically foster future innovators, especially within technology and science.

On the contrary, the approach of education for innovativeness has a different intention: the main idea is to foster innovativeness as such. Innovativeness is defined as the ability to participate within innovation processes. While the approach of innovation education is to offer ideas to implement, education for innovativeness introduces few ideas.

If we argue that innovative students are people who not only live in the world but also should be able to change the world and to cope with individual and societal challenges, the key assumptions of education for innovativeness could be an appropriate starting point to conduct this. This understanding of education has a clear humanistic tendency. Humanistic education focusses on students as human beings and supporting them to "believe in themselves and their potential, encouraging compassion and understanding and fostering self-respect and respect for others (Kirschenbaum 1982, p. 25).

A strength of the education for innovativeness approach could be to challenge hegemonic relations and power structures from within. A solely neoliberal approach to innovation prevents this by requiring individuals "to act according to the principle of competition and internalize the neoliberal normative framework. This fosters an unquestioned acceptance of inequalities inherent in the existing economic system as the individualistic conception conceals power structures of the political and social system"

(Stieger & Jekel, 2019, p. 12). Such a focus on competitiveness and a strong belief in technical progress is addressed within feminist criticism of science with regard to side effects of technical innovations that often remained ignored (for example Paulitz & Prietl, 2018).

Education for innovativeness aims to foster maturity and develop competences that enable students to actively participate in society. Innovativeness means "the ability to participate in innovation processes" (Weis et al., 2017a, p. 196). Which abilities are in detail necessary for innovation processes? Following Gryl, 2013, Weis et al., 2017a&b and Jekel et al. 2015, three abilities are essential for innovativeness: "reflexivity, creativity and implementivity" (Weis, 2016, p. 35). Although reflexivity first appears in the list and might seem to be the starting point, there is no hierarchy for these abilities or for actions to emerge. Rather, as Weis et al. describe, "the relationship between abilities and actions is reciprocal since participating in innovation processes can strengthen the abilities reflexivity, creativity and implementivity, whereas strong innovativeness abilities allow taking actions competently within the innovation process" (Weis et al., 2017b, p. 286). But without its implementation, a creative idea or invention cannot become an innovation (Gryl, 2013; Jekel et al. 2015).

These three abilities are defined as follows:

- "reflexivity – the ability to question current circumstances and reflect on ([one's] own) actions and point out issues […]
- creativity – the ability to develop new ideas, named inventions, as solutions for stated issues […]
- implementivity – the ability to convince others of the need to overcome issues through certain developed solutions" (Weis et al., 2017b, p. 387; see also Gryl, 2013; Jekel et al., 2015).

In the following, I will focus on fostering innovativeness through challenging and questioning hegemonies. By focusing on education for innovativeness, I want to take some (dis)advantages seriously, especially by concentrating on the deconstruction of power relations. Education, in this conception, then fosters students' ability to cope with present and future challenges. It also enables them to cope with the complexity of innovation processes, for example by not ignoring possible side effects and preconditions of innovations.

3 EDUCATION FOR INNOVATIVENESS AND TROUBLE MAKING – A FRUITFUL COMBINATION?

Let us take a closer look at the potentials and limitations of a queer-inspired approach to foster innovativeness by focusing on trouble making as a starting point. A queer praxis might help in dealing with actual and future challenges, especially in challenging and questioning hegemonies and power relations. In the following, I address two main

questions: (a) what does 'trouble making' mean in this context? (b) why might it be desirable to integrate trouble making in a queer-theoretical notion to foster innovativeness?

Judith Butler starts her study *Gender Trouble* by describing the fruitful potential of making trouble instead of focusing on the fear one has of getting into trouble.

> "Contemporary feminist debates over the meanings of gender lead time and again to a certain sense of trouble, as if the indeterminacy of gender might eventually culminate in the failure of feminism. Perhaps trouble need not carry such a negative valence. To make trouble was, within the reigning discourse of my childhood, something one should never do precisely because that would get one in trouble. The rebellion and its reprimand seemed to be caught up in the same terms, a phenomenon that gave rise to my first critical insight into the subtler use of power: The prevailing law threatened one with trouble, even put one in trouble, all to keep one out of trouble. Hence, I concluded that trouble is inevitable and the task, how best to make it, what best way to be in it." (Butler, 1990, p. vii)

Trouble, then, has two main dimensions:

- trouble making and
- being in trouble.

"Trouble is put into action" if "trouble leaks out of its container", Ahmed (2015, p. 182) states. She describes her experiences with "Gender trouble" as a way of "un-bracketing" feminist theories and ideas, because "if you bracket what causes trouble you put trouble out of action" (ibid.). Like Butler, Ahmed describes remaining in a continuous process of questioning trouble, of openness to trouble and of developing ideas to handle trouble making (instead of simply fixing difficult situations) as her way of dealing with "rebellion" and "reprimand" (ibid.).

I think that one cannot make or confront trouble without identifying some kind of power. Trouble assumes that something or someone demonstrates that a challenge was being made in some way. One exercises power when causing trouble and identifying this power can be an empowering process itself, which is intertwined with reflexivity. Thus, analysing processes of normalization through trouble making might be an ideal way of fostering innovativeness. Moreover, this is a productive, activity-oriented approach. The origins of the verb *trouble* lie in Latin and French. From the very beginning, it meant to disturb and confuse:

> "TROUBLE, to agitate, disturb, confuse, vex. (F. – L.) ME. *troublen*, Wyclif, Mark, ix. 19; *trublen*, Ancren Riwle, p. 268, 1. 20. – OF. *Trubler*, *trobler*, later *troubler*, 'to trouble, disturb; ' Cot. Formed as if from a Late L. **turbulare*, a verb made from L. *turbula*, a disorderly group, a little crowd of people (White), dimin. of *turba*, a crowd. In fact we find OF. *torbleur*, one who troubles. [From the L. *turba* we have

> also the verb *turbare*, to disturb, with much of the same sense as F. *troubler*.]" (Klein, 1967, p. 668)

Initially, 'trouble', whether as a noun or a verb, is meant as something that creates action because it refuses the notion of a stable and therefore unchangeable state or system. Following the Cambridge Dictionary (n.d.), a '*troublemaker*' is "someone who intentionally causes problems for other people, especially people who are in a position of power or authority". These meanings of 'trouble' and, by extension, 'trouble making' can be linked to two main features of queer approaches that also are compatible with the notion of innovation and innovativeness proposed above:

- through deconstruction, an assumed truth is denaturalized with a special focus on the criticism of (hetero)normativity; (see e.g. Ernstson & Meyer, 2013, p. 120);
- to 'queer something', then means to explore what questions can be offered to develop social and anti-authoritarian critical potential, e.g. through questioning hegemonies and the inequalities that they cause (see e.g. Hark, 2013, p. 462).

The antonyms of 'trouble making' are 'being disciplined, settling, well-behaved, soothing and calming'. If we think this vice versa in the context of fostering innovativeness, we could ask how permanent prevention of trouble making might inhibit innovation processes. There seems to be a lack of productive potential for fostering innovativeness through "being disciplined and well-behaved" (two possible antonyms) beyond a neoliberal framework of innovation (see Table 1). To summarize, trouble making can be described as an action that questions hegemonies and challenges power, while our own power is challenged simultaneously (by our being in trouble). In a queer and feminist conception, those (normative) power relations need to be analysed and deconstructed. Someone who causes trouble and is in trouble is someone who challenges hegemonies on the fly. I argue that the necessity of being in trouble helps us to be aware of possible (side-)effects to which innovations might lead, helps us to remain within an individual approach to innovations and ensures that a troublemaker is not considered as a person who irritates others by using/ abusing their own power to harm minorities. Being in trouble and making trouble then is empowering for troublemakers. Concerning the power of trouble, Ahmed (2015) states: "The trouble a question can cause became my feminist pedagogy" (p. 181). I suggest this should become an aim for (innovativeness) education as well.

Then it could be an ideal juncture to foster innovativeness in education and to ensure that students have the capacity to become empowered. "Making trouble", on the one hand, could offer a method of thinking that would enable an active approach supporting students in being innovative agents of their own life and society. On the other hand, it could be a helpful tool to analyze and criticize processes of innovation. Based on DeLauretis (1991), Luhmann (1998) argues that "Queer theory's productivity lies in this double impulse of production and deconstruction, in its 'both…and' structure" (p. 124). Deconstructive perspectives ensure thinking of alternatives and new options instead of

reconstructing and reproducing existing knowledge and conditions (Tinkhauser, 2009, p. 107). In order to think in alternatives, creativity is needed and must be trained.

Destruction is not a concern of queering pedagogies; rather, the queer approach implies an ongoing process; there is no aim to finish and therefore fix an invention, an innovation, or even lives. Nevertheless, a (short-term and) short-sighted focus on results will lead to an assumption that deconstructive approaches are not useful for everyday life, but queer approaches are better described as process-oriented rather than result-oriented. “I define queer praxis as a revolutionary call that is an outgrowth of the emotional and ethical responses from examining the inequalities of the norm and the subaltern” (Dilley, 1999, p. 466). As mentioned above, a neoliberal approach does not foster a questioning of inequalities and the status quo. I would argue that the necessary and implicit simultaneity of being in trouble and making trouble helps to prevent stable truths; it fosters self-reflexivity concerning hegemonies and power relations and implies our own vulnerability in personal terms within the process. Trouble helps us as innovators to reflect on our own power and knowledge and those of the hegemony. Such a deconstructive approach is useful for everyday life, if we learn to handle unfixed knowledge and power and maybe even aim for subversiveness. A preliminary implementation of ideas based on reflexion and the ability of reflexivity then can be an impulse for further reflexion. Based on the concept of education for innovativeness, action, reflexion and reflexivity are not simply a result, but part for an ongoing process. This could be illustrated by looking at the development of human rights and women’s and minority rights.

Following Britzmann (1995) “Queer Theory resists [fixing] a content” or “stabilis[ing] a singular body of knowledge that supposes a medicalized or minor identity. Rather, discussion of Queer Theory is an attempt to articulate a thought of a method rather than a pronouncement of content” (p. 155). The aim of queer theories lies in focussing on the (im)possibilities of subversion in everyday life. Focussing on the method and processes instead of fixing content (which enables pathologizations of identities) offers opportunities to foster an ongoing process of inventions and innovations, which could prevent inequalities.

Queer strategies and critical methods aim to irritate and question prevailing norms. As in Luhmann’s definition of queer theories, the notion of irritation has a double effect. If something irritates us, further action is provoked. As a first reaction, we might love to get rid of the irritation. Then, how can we ensure that we deal with the irritation and do not just remove it and return, for example, to social injustices? There is of course no guarantee. But within learning processes in schools, teachers can encourage and empower students and other teachers to become involved with the irritation process (Bähr et al., 2018, p. 24). Therefore, awareness of one’s own power when making trouble seems to be very important. Bähr et al. see irritating learning situations as opportunities for students to become physically and affectively involved to a subject (ibid., p. 9). Dealing with irritation would mean dealing with how others and ourselves provoke feelings. Within this process lies the potential for thinking through normativity (Koller, 2016, p. 215). In

this context, critical queer thinking can be helpful because of its inherent deconstructiveness and challenging of hegemonies. Thinking about irritation and trouble making could subvert power relations. However, not every irritation leads to trouble making in the feminist and queer notions as discussed here. If teachers bully their students, students might be irritated, but an innovation process through trouble making would not be initiated if there is no troubling of hegemonies through the students themselves.

Queer critical thinking fosters resistance, for example to categorizing people and (their) desires. It sensitizes us to the multiple identities of people all over the world. This sensitivity could ensure resistance to concepts that exclude people and can enable people to fight social injustice through social innovations. In this notion queer critical thinking can be socially relevant beyond concepts of sexuality and gender. Therefore, this thinking must remain a process rather than something stable. It requires collaboration, because the ideas, options and thoughts of others are needed. Additionally, it could help to make actions and abilities for innovation and innovativeness visible and connect them with trouble-making processes. Trouble making, with its irritating moment and effects, could then be a powerful didactical input to foster inventions and innovations that help to fight injustices. As a result, teachers and students should "unlearn" how to avoid trouble and focus on the possibilities of the innovation process (see the illustration in section 4 for details).

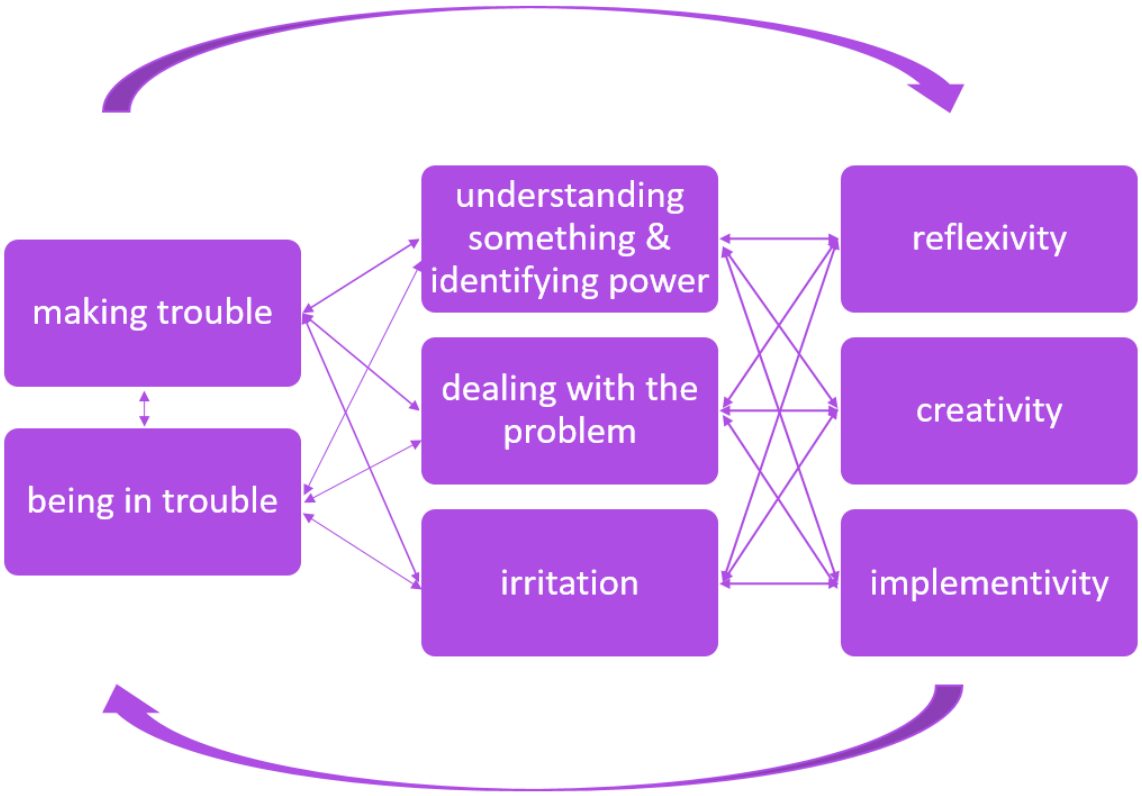
At the beginning of this paper, a quotation from the *Queering the Map* project showed the project's possible irritating potential. In February 2018, the project became too irritating. When messages in support of U.S. President Donald Trump emerged, especially along the East Coast of the USA[3], the map was taken offline. According to Echenique & Boone LaRochelle, the positive aspect of the hacking by Trump supporters was the trigger to change the project: "That is the silver lining. Not that it (the hacking) needed to happen but having the opportunity to make [the map] better and secure and having that help offered is incredible" (Echenique & Boone, 2018, February 14). Again, getting back to the (im)possibilities of queer innovations: since the relaunch, the map is "better and secure" and has installed a moderator to "ensure that no spam or hateful content is added to the site" (*Queering the Map*, n.d.). The takeover of the map by Trump supporters led to a "better and secure" map – but also to the exclusion of possible participants. This case provides an illustration of how leaving the trouble-making process leads to a fixed and controlled result. It would have been very interesting to know how the innovation process would have evolved if the project remained controversial. The dissolution of the project seems to be quite a paradox if we think about queer approaches. Nevertheless, the story of the project shows both possibilities and impossibilities of theory in practice and practice in theory. Nevertheless, the processes that took place within the innovation process are: understanding something, identifying power, dealing with the problem and irritation (though not necessarily in that order).

“Queer theory anticipates the precariousness of the signified: the limits within its conventions and rules and the ways in which these various conventions and rules incite subversive performances, citations and inconveniences” (Britzmann, 1995, p. 153). Especially in a pedagogical and educational context, subversive practices offer a way of keeping knowledge unstable. “Subversiveness, rather than being an easily identifiable counter-knowledge, lies in the very moment of unintelligibility, or the absence of knowledge” (Luhmann, 2009, p. 125). The potential of a queer approach in education and pedagogy, then offers an alternative option. Luhmann articulates her hopes: “Hopefully it encourages an ethical practice by studying the risks of normalization, the limits of its own practices and the im/possibilities of (subversive) teaching and learning” (2009, p. 131). Concerning implementivity, I would argue that potential irritations and subversiveness produced by a trouble-making process are useful for an education for innovativeness. For example, the irritation in a particular situation might influence people to implement ideas or could even produce an innovation. At the same time, those who were irritated might reflect upon what was irritating them. This irritation could also foster ongoing processes of reflexivity, creativity and implementivity (see Fig. 1), because the irritation again could engage people to turn reflexivity, creativity and implementivity into action.

As Ahmed (2015) says, “Making trouble: it can be the ground of a new kind of feminist work. We learn from being in trouble. We stay in trouble. We aim to stay in trouble” (p. 183). If we aim to stay in trouble and encourage students to learn from trouble, to stay in trouble and aim to stay in trouble, we prepare students for handling challenges now and in the future. At the same time, we could foster students’ ability to imagine subversive worlds, including their desires for a life with active participation instead for a trouble-free existence.

A conceptual visualization of trouble making and being in trouble as a queer-inspired approach for the three abilities in education for innovativeness is illustrated below (Figure 2). The process of trouble making is seen as possible action in an innovation process; there is no linear process of making trouble and in being innovative. The irritation might be a starting point for fostering creativity, but the irritation could also be a starting point for reflecting on power relations in a trouble-making process. Similar but different relationships with other actions and abilities are implied. For example, the action 'dealing with a problem' might need reflexivity, creativity and implementivity. In the next step, I will analyse whether these assumptions can be identified and whether they show further (im)possibilities of the approach in innovativeness education.

Figure 2: A preliminary application of Butler's reflection on trouble making (1990) to education for innovativeness (Weis et al., 2017b)



To transfer the conceptual framework showed in Fig. 2, let us have a look at another quotation from the *Queering the Map* project:

Figure 3: Quotation from a place dotted in the Queering the Map project (Queering the Map, n.d.)

"I got misgendered often as a kid here while visiting family because I didn't have my ears pierced. I didn't have the language for it then, but those were some of my first experiences with queerness and gender nonconformity. I'm grateful that

> that's been party [sic] of my history and identity since before I knew it." (Queering the Map, a place in Akatsi/Ghana)

This person seems *to be in trouble* because he or she do not have pierced ears. This confuses (and therefore irritates) the person's family in Akatsi/ Ghana (place of the dot in the map), because the absence of pierced ears is not gender-conformative. The person mentions that dealing with the problem was especially difficult because they had no vocabulary to describe the situation. Therefore, this person is in trouble and *makes trouble* for his or her family and for people at that very place marked in the map. Family is an identified power and language is identified as empowering. All the trouble referred to seems to cause irritation; it is part of a process of *dealing with problems and understanding power relations*. Although we do not know too much about this person, we can probably identify his or her ability of *reflexivity* (which is, at least, retrospective). Being "grateful" for the experiences shows a creative and empowering way of dealing with one's own history. It is subversive in terms of resisting and challenging an essential identity. Additionally, we may assume that the *implementivity* aspect is ongoing.

This example shows (im)possibilities concerning the ideas and process outlined in Figure 2 – namely that making and being in trouble, if taken seriously, could lead to further innovations. If applied to school education, the approach could help to foster innovativeness and, further, produce ways of dealing with trouble. It offers

- a concept for describing innovation processes through making trouble and
- for giving an input for further individual inspirations in trouble making, which also
- has educational implications, especially for Geography and Economic Education.

Within Geography (and Economic) Education, we have the possibility to look at local-to-global phenomena within individual and societal contexts (Gryl, 2013, p. 20). Additionally, we can use queer geographies to explore how places and spaces are produced through (sexual) identities, subjectivities and practices and how these places and spaces themselves serve to form those same identities. In this context, Browne (2006, p. 885) states: "I (and others) locate "queer" in the normativities and orthodoxies, in part now by rendering categories of sexualities, genders and spaces fluid". Like innovations, places and spaces are not absolute or fixed; nor are identities absolute or fixed (see e.g. Gieseking 2013).

The Queer Theory inspired approach discussed here offers an idea for empowering students within education for innovativeness through trouble making. Within Geography and Economic Education, I assume that many life-relevant and empowering actions can be inspired by using concepts and methods of the disciplines themselves and of educational research, such as the powerful knowledge approach (e.g. Lambert 2015; Roberts 2014). Of necessity, the approach presented here focusses on trouble making in a specific place for specific people and lives that is within economic sphere. It is not

particularly transferable or general. By turning these ideas into practice, a special space for learning could be offered within school education. The approach offers a connection to students' every-day lives and has potential to enable shaping processes in their world. Therefore, I would argue that it is desirable to foster queer-inspired innovativeness, especially within Geography and Economic Education.

4 TROUBLE MAKING – AN EXAMPLE FOR GEOGRAPHY AND ECONOMICS EDUCATION

"Why do we have to speak formally with you?[4]" a pupil asked me in my first year of teaching in school. This question made me a little bit afraid, especially because I knew that speaking formally with each other does not support learning. I just adopted the cultural ways I got to know as a pupil, in teacher training and as a teacher. If we consider trouble making to be a possible process for learning, this question could be a fruitful starting point for a learning process within Geography and Economic Education. In this this situation told above (which was some years ago), I must confess that we only briefly discussed the pros and cons of a formal style of communication in school, for example in relation to the influence teachers have on the life of students, when evaluating their performance. Therefore, we tried a little compromise in our class: the students were allowed to stop addressing me formally[5] (in German, this includes using the formal pronoun "Sie" and the academic title[6]), which improved the transparency of the evaluation process in the classroom.

After thinking about trouble making and education for innovativeness in this paper, I really feel that I have gotten myself into trouble over how to deal with this pupil's great question: I hindered the chance of a further learning process within our subject by failing to reflect on the power relations and hegemonies at play within schools. In this subsection, I will try to develop an alternative for my former self as a teacher in Geography and Economic Education and at the same time illustrate the ideas that I have been discussing here.

Here is a possible alternative to the original conversation in that situation told above:

Student: Why do we have to speak formally with you?

Me: Why are you asking me that question?

Student: Because we don't understand why you feel threatened if we speak in any other way.

Me: Actually, I do not really know, but how do you feel about researching this together and discussing it within social, economic and spatial contexts?

Student: What do we have to do?

Me: Why do you ask me what to do?

Student: Well, because you are the teacher and teachers tell us what to do!

Me: Why do you think that way, what are we doing here, why are you here?

Student: Because that's how things are and how they have always been! We have to learn and you tell us what we to learn in Geography and Economics.

Me: But why do you have to learn? Do I have to learn as well? Why would it be important to speak about the implications on learning by using a formal communication style? Do the school structure and the power relations within it help us to learn? Who says what you and I should learn? Do you feel like school is a democratic place?

etc.

This could have been one way, in which the conversation might have developed after the student's initial question. The trouble that this pupil's question causes for all of us might be an opportunity to start an empowering education sequence. The question itself already contains the identification of some sort of power relations. It questions them, but it might also irritate some people –teachers, other students, or other members of the school's staff. In a second step, we could analyse the specific power relations in our school and try to deal with the problem(s) identified. The first innovation process might be implementivity by students and/ or teachers in the classroom.

Depending on the ideas and creativity of the students themselves, several specific analyses could be offered within Geography and Economic Education. For example, analysing

- place and space
- power and social (in)justice within schools
- school as (no) place of democracy and collaboration

Depending on students' reflexivity, creativity and implementivity, a further step for students and teachers could be to develop utopian ideas of school that address the problems identified. This, in Weis et al.'s terms, could be "Stimulating by Simulating" (Weis et al., 2017b). Work could also be carried out on the implementation of ideas for innovations developed in the classroom.

5 REFLECTION AND NEXT STEPS

As the example in the previous section shows, trouble making and irritation could possibly lead to innovation processes and be a fruitful part of innovativeness education. In this last section, I will reflect on what I have looked at so far in this paper and summarize next steps for research and practice that aim to foster education for innovativeness through trouble making.

Thinking about trouble making necessarily involves identifying or questioning power relations, especially when it is integrated in educational contexts. A very important part of trouble making as a fruitful approach in education for innovativeness is that power

relations are challenged and hegemonies questioned. If teachers take this seriously, education itself and every aspect of it potentially becomes part of multiple innovation processes, with one innovation leading to another invention/innovation in an ongoing process.

Based on that, I would argue that we need to focus on the following actions when we talk about fostering innovativeness using a queer-theory inspired practice of trouble making and being in trouble:

- Geography and Economic Education that explicitly fosters trouble making as a part of education in general
- deconstructing (including denaturalizing) normativities
- judging subversiveness as desirable
- questioning power relations in society and learning institutions such as schools.

The specifically queer (and therefore deconstructive) approaches and practices help us to ensure that prevailing (re)constructions are questioned. They help foster innovativeness within a transgressive notion of innovation through an approach that is learner-centred and focuses on their real-life situations.

Further research could focus on the following questions:

- What do we need to do to encourage ourselves, teachers and students to make trouble?
- In what ways must schools, curricula, teaching styles and hierarchies change?
- What would be most suitable methods for a trouble-making processes within innovativeness education?

As shown in the examples discussed, it is especially challenging to remain apart from normativities concerning fixed content, fixed identities and fixed spaces. These challenges themselves should be considered as an ongoing process of innovation, namely the aims of staying in trouble and of making trouble.

REFERENCES

Ahmed, S. (2015). Being in Trouble. In the Company of Judith Butler. *lambada Nordica* 2-3, 179-189.

Ampuja, M. (2016). The New Spirit of Capitalism, Innovation Fetishism and New Information and Communication Technologies. *Javnost - The Public* 23/1, 19-36

Bähr, I., Gebhard, U., Krieger, C., Lübke, B., Pfeiffer, M., Regenbrecht, T., Sabisch, A., & Sting, W. (2018). Irritation im Fachunterricht. Didaktische Wendungen der Theorie transformatorischer Bildungsprozesse. [Irritation in education. Aspects of transformational educational processes.] In Bähr, I., Gebhard, U., Krieger, C., Lübke, B., Pfeiffer, M., Regenbrecht, T., Sabisch, A., & Sting, W. (Eds.) *Irritation als Chance. Bildung fachdidaktisch denken* (3-40). Wiesbaden: Springer VS.

Britzmann, D (1995). Is there a queer pedagogy? Or, stop reading straight. *Educational Theory*, *45*(2), 151-165.

Browne, K. (2006). Challenging Queer Geographies. *Antipode, 38*(5), 885-894.

Butler, J. (1990). *Gender Trouble. Feminism and the Subversion of Identity*. New York: Routledge.

Cambridge Dictionary. (n.d.). Troublemaker. In dictionary.camebridge.org. Retrieved March 12, 2020, from https://dictionary.cambridge.org/de/worterbuch/englisch/troublemaker.

De Lauretis, T. (1991). Queer theory: Lesbian and gay sexualities: An introduction. *Differences: A Journal of Feminist and Cultural Studies*, *3*(2), iii-xviii.

Dilley, P. (1999). Queer theory: under construction. *Qualitative studies in education, 12*(5), 457-472.

Echenique, M & Boone A. (2018, February 14). A Crowdsourced Map of the Queer World. *Citylab.com.* https://www.citylab.com/life/2018/02/how-to-queer-the-mapand-fend-off-an-attack/552824/.

Ernstson, S., & Meyer, C. (Eds.) (2013). *Praxis geschlechtersensibler und interkultureller Bildung.* [Gender-sensitiv and intercultural education.] Wiesbaden: Springer Fachmedien Wiesbaden.

Gieseking, J. J. (2013). A Queer Geographer's Life as an Introduction to Queer Theory, Space and Time. In Lau, L., Arsanios, M., Zuniga-Gonzalez, F., Kryger, M., & Misamr, O. (Eds.), *Queer Geographies* (pp. 1-21). Published by Museet for Samtidskunst // Museum of Contemporary Art.

Gonzalez, R.M. & Donert, K. (Eds.) (2014). *Innovative Learning Geography in Europe: New Challenges for the 21st Century.* Cambridge Scholars Publishing.

Gryl, I. (2013). Alles neu – Innovation durch Geographie und GW-Unterricht? *GW-Unterricht*, 131*(3)*, 16-27.

Hark, S. (2013). Queer Studies. In Braun, C. V., & Stephan, I. (Eds.). *Gender@Wissen* (3. Ed.), pp. 449-470. Köln: UTB Böhlau.

Jekel, T., Ferber, N. & Stuppacher K. (2015): *Innovation vs. Innovativeness: Do We Support Our Students in (Re-)Inventing the World?* In GI_Forum, pp. 373-383.

Kirschenbaum, H. (1982). what humanistic education is… and is not. In *Elementary School Guidance & Counseling*, 17(1) Special Issue on Censorship in the Classroom and Program Evaluation, pp. 25-27.

Klein, E. (1967*). A comprehensive etymological dictionary of the English language. Dealing with the origin of words and their sense development thus illustrating the history of civilization and culture.* Volume II L-Z. Elsevier Publishing Company.

Koller, H. C. (2016). Über die Notwendigkeit von Irritationen für den Bildungsprozess. Grundzüge einer transformatorischen Bildungstheorie. [The necessity of irritation in education.] In Lischewski, A. (Eds.), *Negativität als Bildungsimpuls? Über die pädagogische Bedeutung von Krisen, Konflikten und Katastrophen* (pp. 215-235). Paderborn: Ferdinand Schöningh.

Krohmer, M.; Budke, A. (2018). Understanding and Assessment of Innovation by Geography Teachers in North Rhine-Westphalia: A German Case Study. Review of International Geographical Education Online (RIGEO), 8(3), 415- 439. Retrieved from http://www.rigeo.org/vol8no3/Number3winter/RIGEO-V8-N3-1.pdf.

Lambert, D. (2015). Geography. In Wyse, D., Hayward, L. & J. Pandya (Eds.) *The SAGE handbook of curriculum, pedagogy and assessment. SAGE Publications Ltd.*

Luhmann, S. (1998). Queering/Querying Pedagogy? Or, Pedagogy Is a Pretty Queer Thing. In. Pinar, W. F. (Eds.), *Queer theory in Education* (pp. 120-132). Mahwah, New Jersey London: Lawrence Erlbaum Associates.

Online Etymology Dictionary. (n.d.) Trouble. Etymonline.com. Retrieved March 12, 2020, from https://www.etymonline.com/word/trouble#etymonline_v_46471.

Paulitz, T. & Prietl, B. (2018): Feministische Innovationstheorien. [Feminist innovation theories.] In Blättel-Mink, B., Schulz-Schaeffer, I, & Windeler, A. (Eds.) *Handbuch Innovationsforschung*. Wiesbaden: Springer VS.

Queering the Map (since May 2017): Queering the Map. Retrieved August 29, 2019, from https://www.queeringthemap.com/.

Roberts, M. (2014). Powerful knowledge and geographical education. In *The Curriculum Journal*, Vol. 25, pp. 187-209.

Shavinina, L.V. (2013). The fundamentals of innovation education. In Shavinina, L. V. (Ed.), *The Routledge international Handbook of Innovation Education* (pp.29-47). London & New York: Routledge.

Stieger, S & Jekel, T. (2019). Ideology, education and financial literacy. Uncovering neoliberal ideology in assessment studies of economics education – the case of Austria. *Journal of Social Science*, *18*(2), 4-27. https://doi.org/10.4119/jsse-906

Tinkhauser, P. (2009). *Dekonstruktive Pädagogik. Paradigmenwechsel im Umgang mit Identitäten, Geschlechtern und Sexualität.* [Deconstructive pedagogies. Changes in handling identities, gender and sexualities, master thesis, University of Vienna]. https://doi.org/10.25365/thesis.3672

Vielhaber, C. (1999). Vermittlung und Interesse - Zwei Schlüsselkategorien fachdidaktischer Grundlegung im "Geographie und Wirtschaftskunde"-Unterricht. [Knowledge sharing and interessts in knowledge - Two key categories for geographical and economical education.] In Vielhaber, C. (Ed.), Geographiedidaktik kreuz und quer. Vom Vermittlungsinteresse bis zum Methodenstreit – Von der Spurensuche bis zum Raumverzicht (pp. 9-26). Materialien der Didaktik der Geographie und Wirtschaftskunde, Bd. 15, Wien.

Weis, S., Scharf, C., Greifzu, L., & Gryl, I. (2017b). Stimulating by Simulating. Fostering Innovativeness in Education. *International Conference on Education: IACB, ICE & ICTE Conference Proceedings*, 386/1–386/11.

Weis, S., Scharf, C. & Gryl, I. (2017a). *New and even newer fostering innovativeness in primary education. INTCESS*, 193–202. http://www.ocerint.org/intcess17_epublication/abstracts/a233.html.

ENDNOTES

1 The related subject in Austrian secondary education since 1962 is “Geography and Economics”. I would argue that the ideas discussed here could also be part of education in Geography alone.

2 According to Shavinina, High Intellectual and Creative Educational Multimedia Technologies (HICEMTs) can be described by “a set of their general and specific characteristics. The general characteristics of HICEMTs include (a) general psychological basis, (b) actualization of fundamental cognitive mechanisms, (c) new targets of educational and developmental influences, (d) better adaption to an individual’s psychological organization and ‘psychooedutainment’ as an overall framework” (Shavinina, 2013, p. 42).

3 Echenique & Boone (2018, February 14) quote one exemplifying comment: “Make America Great Again”””” Donald Trump is the best president!!!” dotted in Massachusetts, now deleted.

4 The original question in German was: “Frau Professor, warum müssen wir Sie eigentlich mit ‘Sie’ anreden?”

5 In Austria, it is common for students up to the age of 14 to speak formally to their teachers, but not for teachers to address them in similar fashion. Teachers should ask their students aged 15 and upwards how they wish to be addressed.

6 The academic title is also quite crucial, because the law provides for teachers in secondary education to use the title “professor”, which is in fact only in the rarest of cases the actual academic title of the teachers.

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