

The dynamics of citizen sociolinguistics¹

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The objective of this paper is to explore the dynamics of citizen science (CS) in sociolinguistics or *citizen sociolinguistics*, i.e. the engagement of non-professionals in *doing* sociolinguistic research. Based on a CS-study undertaken in Norway where we engaged young people as citizen scientists to explore linguistic diversity, this paper aims to clarify the definition of citizen sociolinguistics; it seeks to advance the discussion of the advantages of CS and of how CS can contribute to sociolinguistics; it also addresses the opposite: how sociolinguistics can contribute to the general field of citizen science; and it discusses the challenges of a CS-methodology for sociolinguistic research, epistemologically and ethically, as well as in terms of recruitment, quality control and possible types of sociolinguistic tasks and topics. To meet the needs of society and societal challenges of today there is a need to develop methods and establish scientific acceptance for the relevance of public engagement in research. This paper argues that citizen sociolinguistics has the potential to advance the societal impact of sociolinguistics by constructing a dialogue between ‘the academy’ and ‘the citizens’; citizen sociolinguistics relies on and encourages participatory citizen agency, provides research experience, stimulates curiosity, further research, public understanding of science and (socio)linguistic awareness, and encourages linguistic stewardship.

Formålet med artikkelen er å undersøke hvordan *citizen science* (CS), eller *medborgervitenskap*, kan anvendes i sosiolingvistisk forskning. *Citizen sociolinguistics* eller *sosiolingvistisk medborgervitenskap* forstås som det å involvere lekfolk i å *gjøre* sosiolingvistisk forskning. Med utgangspunkt i en norsk CS-studie der vi inviterte alle skoleelever på alle trinn til å være språkforskere, redegjør denne artikkelen for hva sosiolingvistisk medborgervitenskap er. Den diskuterer fordeler ved sosiolingvistisk medborgervitenskap og hvordan CS kan bidra til sosiolingvistikken. Samtidig viser artikkelen hvordan sosiolingvistikken kan bidra til det generelle CS-feltet. Den diskuterer også metodologiske utfordringer med CS, det være seg epistemologiske og etiske, samt utfordringer med tanke på rekruttering, kvalitetskontroll og hvilke typer sosiolingvistiske emner som kan tematiseres innenfor en CS-metodologi. For å møte samfunnets behov og dagens samfunnsutfordringer er det viktig å videreutvikle metoder og etablere vitenskapelig aksept for medborgeres aktive deltakelse i og bidrag til forskning. En CS-metodologi skaper dialog mellom academia og medborgerne, og den kan således bidra til å øke sosiolingvistikkenes samfunnsmessige betydning. Sosiolingvistisk medborgervitenskap oppmuntrer til medborgeres deltakelse i

forskning, den skaper engasjement, gir forskningserfaring og ikke minst forskningsforståelse. Sosiolingvistisk medborgervitenskap stimulerer dessuten nysgjerrighet, videre forskning og (sosio)lingvistisk bevissthet. En CS-metodologi kan derigjennom bidra til å styrke planlegging og forvaltning av språklige ressurser både individuelt og på samfunnsnivå. [Norwegian]

KEYWORDS: Citizen sociolinguistics, citizen science, methodology, language diversity, multilingualism, education, Norway

CITIZEN SCIENCE AND CITIZEN SOCIOLINGUISTICS

The potential ways a researcher can influence his or her objects of study have been a critical concern since the dawn of sociolinguistics (Cameron et al. 1992; Mallinson, Childs and Van Herk 2013), famously formulated by Labov (1972: 209) as the ‘observer’s paradox’. This paper discusses, following on from Rymes and Leone (2014), a supplementary sociolinguistic methodological tool which encourages participatory citizen agency which, in many ways, redefines or reimagines the relationship between the researcher and the researched, i.e. *citizen science* (hereafter, CS). Within the growing body of literature on CS, the terms ‘citizen science’ and ‘citizen scientist’ refer to the engagement of non-professionals in conducting scientific research in collaboration with professional scientists or research institutions (e.g. Dickinson et al. 2012; Golumbic et al. 2017; Lewenstein 2016).

CS has a long tradition in the natural sciences and its primary impact has been found in studies of ecological changes in natural habitats (Dickinson et al. 2012; Kullenberg and Kasperowski 2016). In environmental science projects, citizen scientists have provided crucial baseline data for ecological research and monitoring, such as the *Volunteer Water Quality Monitoring* project, the *Christmas Bird Count* or the *Monarch Watch* initiative. In the latter, citizen scientists contributed to document a decline in Monarch butterfly populations. CS can trace its origins back over a hundred years, and recently CS has expanded through the use of internet and related technologies (Lewenstein 2016). The literature on CS has been scattered and much of it exists, according to Lewenstein (2016: 2), ‘under other labels, like “peer to peer” science, participatory science, community science, community-based research, public participation in research, crowdsourced science, and so on’. According to Golumbic and her colleagues, CS is characterised by three fundamental elements: (1) inclusion of citizens in the scientific process; (2) contributions to both science and the public, and (3) reciprocity, i.e. a two-way communication between scientists and the public (Golumbic et al. 2017: 2). Levels of participation vary according to the design of the CS-project, ranging from ‘the simple contribution of information in contributory projects, through collaborative projects having the additive value of data analysis and

interpretation, through co-created projects that involve the public in all stages of the research process' (Golombic et al. 2017: 2). The benefits for the public or the citizens comprise *inter alia* hands-on knowledge of scientific processes, new knowledge and acknowledgement by contributing to science. The researcher(s) may gain new and sometimes rare knowledge which could not otherwise be obtained due to the (many) citizens' effort.

In recent years, CS has been transformed and has gained momentum in a wide range of disciplines; and a dedicated journal, *Citizen Science: Theory and Practice*, was launched in 2014. According to Kullenberg and Kasperowski's (2016) scientometric meta-analysis, the number of CS-studies has increased steadily over the last decade, especially in the fields of ornithology, astronomy, meteorology and microbiology, which – like language – are accessible to citizens in their daily lives. Recently, CS was recognised as an open science priority by the European Council, and is one of four strategic lines of action – 'Exploring and supporting citizen science' – in the EU's Work Program on 'Science with and for Society' 2018–2020 (EU Research 2017). Hence, CS is a broad and expanding field and one main attraction lies in it being a methodology suitable for gathering large amounts of data. CS is, however, more than a method: the epistemological rationale for CS is based on an alteration of the relation between the researcher and the researched and thus the traditional way we conceive science and who has the authority to do it. CS is also about creating public engagement and it has the potential to stimulate public education as well as facilitating democratic participation and increased public understanding of science (Bonney et al. 2016; Lewenstein 2016).

Rymes and Leone (2014) coined and introduced *citizen sociolinguistics* by invoking citizen science research undertaken in Australia on possum behaviour. Drawing on orders of indexicality, citizen science and contemporary theories about participatory culture, Rymes and Leone (2014: 26) define citizen sociolinguists as 'people who use their senses and intelligence to understand the world around them. Citizen sociolinguistics, then, is the study of these understandings.' In their recent study applying citizen sociolinguistics, Rymes et al. (2017) analyse people's metacommentaries in social media on language and language practice, and the ways these comments illuminate the social value people themselves place on their language use. Although the current paper aligns to a large extent with Rymes and her colleagues' epistemological rationale for citizen sociolinguistics, it is not obvious that exploring the metacommentaries of non-linguists on language and language practice differs in principle from traditional folk linguistics (e.g. Preston 1993). It does not appear that these 'folk' or 'citizens' are engaged in research according to the CS-terms of Kullenberg and Kasperowski (2016) or Golombic et al. (2017), but remain, along with their metalinguistic talk, an object of research from the outside. The point emphasised here is that citizen sociolinguistics requires the inclusion of non-professionals in *doing* sociolinguistic research, in collecting data, in registering

them, analysing and interpreting them relative to the level of citizen involvement and collaboration, the research questions and design of the CS-project. Citizen sociolinguistics is, moreover, characterised by two-way communication between the citizens and the sociolinguist(s) and by providing sociolinguistic research that contributes to the public as well as to scientific progress. The term 'citizen sociolinguists' is conceived as 'non-professionals' or 'laypeople' who have no formal sociolinguistic training and who are involved in performing scientific research.

Based on a project undertaken in Norway where we engaged school pupils as citizen scientists (Svendsen, Ryen and Lexander 2015), this paper explores the dynamics of citizen sociolinguistics. The main aims of the paper are to clarify the definition of citizen sociolinguistics; to advance the discussion of the advantages of CS and of how CS can contribute to sociolinguistics (cf. Rymes and Leone 2014; Rymes et al. 2017); to address the opposite: how (socio) linguistics can contribute to the general field of citizen science; and to discuss the challenges of a CS-methodology for sociolinguistic research in terms of recruitment, possible types of sociolinguistic tasks and topics, and quality control, as well as ethically and epistemologically: what do CS-data represent and which claims can be made from them? It is argued that one of CS's main advantages is its potential to involve many citizen researchers, its wide-reaching potential and thus its potential to generate large data sets. However, a CS-methodology is also useful to gather rich data sets which might otherwise be difficult to obtain, as part of qualitative 'thick descriptions' (Geertz 1973). This paper argues that CS is suited to advance the social impacts of sociolinguistics due to its wide-reaching potential and the ways it encourages and relies upon public involvement. Citizen sociolinguistics has, moreover, the potential to provide research experience, stimulate curiosity, further research, public understanding of science and increased (socio) linguistic awareness and knowledge by involving the public in sociolinguistic research and to encourage linguistic stewardship, i.e. the planning and management of linguistic resources and linguistic diversity at the individual as well as the societal level, and particularly in education. In the next section, citizen sociolinguistics and its epistemological rationale is elaborated (cf. Rymes and Leone 2014, Rymes et al. 2017; Svendsen and Ryen 2015).

CITIZEN SOCIOLINGUISTICS AND ITS EPISTEMOLOGICAL RATIONALE

The epistemological rationale for CS lies in the reconceptualisation of who can claim to possess (sociolinguistic) knowledge, who is qualified to collect it and which data are 'legitimate' (Bourdieu 1991). Citizen sociolinguistics recognises that an absolute distinction between scientists and laypeople is not helpful. According to Giddens' (1984) 'double hermeneutics', the social world, as social scientists observe and interpret, is already constituted and interpreted by laypeople. Thus, terms and theories – or interpretations – oscillate between the

scientist and the scientist's object of study, or as Giddens (1984: 374) puts it, 'there is a constant "slippage" from one to the other involved in the practice of social sciences'. In other words, CS requires an ontology where laypeople are conceived as competent and not as an uneducated homogenous mass. The Norwegian CS-project reported in this paper is conditioned on a fundamental assumption that young people are indeed competent and that they *a priori* possess awareness of their own language competence and practices, which is an understanding that deserves researchers' attention (e.g. Alim 2010), and that they are capable, with instruction as to what to look for, of being 'amateur' scientists (cf. Van Herk 2008).

A premise for using CS as a sociolinguistic methodological tool is the inclusion of an *emic* perspective in our understanding of language in social life, and that we conceive people's sociolinguistic knowledge as relevant to scientific research (cf. Preston 1993). Accordingly, the emic perspective on sociolinguistic knowledge that underlies a CS-approach echoes the tenets of folk linguistics where the empirical accuracy of what people state about their linguistic knowledge and practice is irrelevant. CS does differ, however, from folk linguistics in that CS preconditions a trust in the provided data and knowledge of the citizen scientists, whereas folk linguistics conceives citizen knowledge predominantly as a window into ontology and ideology. Hence, there is a substantial difference between 'citizens' *doing* sociolinguistic research and the (meta)linguistic comments of folk linguists. What is more, a CS-methodology requires some instruction or training of the citizen scientists to enable them to carry out the research in alignment with its objectives with oversight and integrity, or as Albury (2016: 20) phrases it, the 'level of expertise that citizen sociolinguists may have attained may even preclude them from being folk linguists'. Within a positivistic paradigm, the data produced by citizen scientists might attract concerns about reliability since they are based on reported data. In this regard, CS faces a similar criticism as folk linguistics for being interested in lay perspectives rather than empirical facts (see e.g. Albury 2016). There is, however, a need to discuss the extent to which and how some data are epistemologically recognised as empirical facts while others might be rejected as beliefs and assumptions. Census data and surveys rely on the same self-reporting methodology and the reports from the young citizen scientists in this paper are indicative of their and their peers' competences, practices and attitudes. Language users' comments on language are often used as data for linguistic research, although 'their contributions to linguistic argument and theory in general have not been much explored' (McGregor 2001: 480). Hence, whereas citizen sociolinguistics appears to be new, the practice of including people's (socio)linguistic knowledge and practice in scientific sociolinguistic research is much older (Cameron et al. 1992; Mallinson et al. 2013). These methodological concerns are therefore not new, nor unsurpassable, and can be seen through struggles over legitimacy (Bourdieu 1991), i.e. 'over who has the legitimate right to define what counts

as competence, as authenticity, as excellence, and over who has the right to produce and distribute resources of language and identity' (Heller 2003: 474).

Within the general field of CS, a few studies have been conducted on scientists' views on citizen science (Golombic et al. 2017; Riesch and Potter 2013). These studies reveal that scientists are often sceptical towards public engagement in research; they question the ability of lay citizens to supply products of adequate scientific quality. Whether or not that holds for sociolinguists remains to be investigated empirically (cf. Cameron et al. 1992), but there is a well-established tradition within sociolinguistics for social engagement which may prove to be useful for the general field of CS, particularly the current sociolinguistic context where sociolinguists involves members from the community of practice in collaborative work to proactively share 'insights with community members and to "give back" to the community, with the goal of empowering the community in some way' (Wolfram 2011: 301). In his comprehensive work on language and social engagement, Wolfram (e.g. 2011, 2013) discusses several advantages and limitations of collaborative work between sociolinguists and community members, such as proximity to the research object and differences in professional (sociolinguistic) knowledge (see below) and the ways such differences can be optimised. A CS-project may involve 'empowering' research as in the model of Cameron et al. (1992), which is comprised by interactive methods which takes into account the subjects' own agendas for research and provides feedback to subjects. The level of 'empowering', however, depending on the definition of it, may vary according to the objective of the CS-project. A CS-methodology alters the traditional power relation between the researcher and the research subjects; a change which takes participants' agency to a greater extent into account, and to an increasing number of citizens due to technological advances. In citizen sociolinguistics, the relation between the professional scientist and the 'amateur' scientist thus comes closer to a relation of equality and interdependence than the traditional hierarchical one (cf. Trechter 2013, see below). A high level of citizen collaboration may, however, hamper the practical implementation of the project when involving many citizens over large geographical areas, as in the Norwegian CS-study and in other CS-studies (Dickinson et al. 2012). Paradoxically – or logically – a CS-methodology implies that when the citizens' agency increases, the researchers' control decreases (see below). But if we are serious about working with citizens, we must trust and rely on their capacities and knowledge, although we of course risk to be surprised during the study: the citizens may move us away from vested interests we may have in the presentation of linguistic diversity (cf. Wolfram 2013: 765).

The ability of CS to reach out to a crowd of non-experts echoes the (socio) linguistic methodology of using crowdsourcing for collecting speech (e.g. Eskénazi et al. 2013). There is a risk that all projects involving some kind of

public engagement are to be subsumed under the term citizen science, or citizen sociolinguistics in this context. Crowdsourcing for speech does involve public participation, but there is a need to differentiate that method from citizen sociolinguistics. Citizen sociolinguistics is not *per se* about crowdsourcing (meta)linguistic data, e.g. through Smartphone applications (e.g. Leemann et al. 2016), through media platforms such as Facebook (e.g. Rymes et al. 2017) or through platforms for crowdsourcing data for automatic speech processing (e.g. Eskénazi et al. 2013). Smartphone applications or .com crowdsourcing platforms such as Amazon's Mechanical Turk might, however, be used or developed as tools to be applied by citizens in registering or transcribing their collected data. That said, Eskénazi and her colleagues' comprehensive overview of crowdsourcing for processing speech data represents practical guidelines and insights which can be directly useful for the general field of CS, in designing and implementing a CS-project regardless of research topic, such as their guidelines on how to develop and design tasks, how to assess the non-experts and improve the quality of their work, and their discussion of different interfaces and choices of .com solutions for crowdsourcing data, such as MTurk and others, solutions which might be used by citizen scientists for registering or transcribing their data (Eskénazi et al. 2013). Hence, the general field of CS may advance from sociolinguistics methodologically as well as empirically and theoretically: explicit knowledge of the social or societal meaning and value of language; the interrelation between language and power and how that may affect social interactions, including the relation between the scientist and the citizens, is of importance in developing CS-projects in general, and particularly when human subjects are involved. In the next section, the Norwegian CS-project is outlined as a case study for a general exploration of the dynamics of citizen sociolinguistics.

YOUNG PEOPLE AS CITIZEN SCIENTISTS IN EXPLORING LINGUISTIC DIVERSITY IN NORWAY

In 2014, we engaged pupils as citizen scientists in the national Norwegian Research Campaign *Ta tempen på språket!* ('Taking the temperature of language!'). The Research Campaign is held annually and is organised by the Research Council of Norway (RCN) and the Centre for Science Education at the University of Bergen, in collaboration with researchers at different research institutions. In the Campaign, pupils are invited to conduct research, collect data and to varying degrees analyse and interpret them, depending on the design for that particular annual campaign. In the past, topics have mainly been from the natural sciences, such as investigating the presence of water fleas in ponds or the density of earthworms (www.miljolare.no/forskningskampanjen/). *Taking the temperature of language!* was the first Campaign that had a sociolinguistic topic (hereafter, the Research Campaign)², led by the author in close collaboration with a project group

(see endnote 1). Between September and December 2014, all pupils from all grades (1–13) in Norwegian schools were invited to explore linguistic diversity as citizen scientists. The pupils investigated language and dialect competence, as well as language practices in interactions at school and in the family; they collected slang words and phrases ‘of which adults are not aware’; explored the inclination for, and rationale behind, learning languages; and investigated the increasing use of English words and phrases in Norwegian (see below). The citizen scientists interviewed their peers and registered their own and their peers’ responses in a digital database, using an interface developed by the researchers in collaboration with the Centre for Science Education at the University of Bergen. This database will remain open for further registrations for years to come and is available for pupils and others as a resource for sociolinguistic research (www.miljolare.no/aktiviteter/ord/).

Norway is a country known for its abundant linguistic diversity. In contrast to many other countries, such as Australia, Canada, South Africa and the US, there is no large-scale census data on the language composition or the linguistic characteristics of the Norwegian population, their command of languages or language use patterns, such as languages spoken at home. There exist studies of local dialect vitality (e.g. Røynealand 2009) and of attitudes (e.g. Sandøy 2013), but few on language competence in and use of languages other than Norwegian (e.g. Lanza and Svendsen 2007). In Norway, there are two official languages: Norwegian, including two written standards, i.e. *Bokmål* and *Nynorsk*, and Sami.³ There are many dialects, and English is mandatory from first grade and is known and used by almost the entire population. Its use is currently increasing in certain domains, particularly in academia and in business (e.g. Mæhlum 2007). Norwegian linguistic diversity also comprises Norwegian Sign Language and the three national minority languages, Kven, Romani and Romanes. According to Statistics Norway (SN 2017), 13.8 per cent of the total population of 5.2 million are considered a so-called ‘immigrant population’. In addition, 3 per cent of new-borns have two immigrant parents. There are people from 221 of the world’s regions and nations living in Norway. The five largest ‘immigrant groups’ comprise people from Poland, Lithuania, Sweden, Somalia and Germany (SN 2017). There were three main aims for the Research Campaign: to conduct a quantitative and nation-wide study of the language command and practices of the younger generation (6–19 years of age), since young people are often seen as barometers of linguistic and social change (e.g. Nortier and Svendsen 2015); to increase – relative to traditional sociolinguistic methods (e.g. Mallinson et al. 2013) – the participants’ agency by involving them as citizen scientists; and to contribute to increased (socio)linguistic awareness and knowledge among the pupils through their sociolinguistic research and thereby encourage linguistic stewardship. The latter is particularly appropriate in a country known for its ‘enormous social tolerance for linguistic diversity’ (Trudgill 2002: 31) while at the same time being subject to language policing and linguistic hierarchies (e.g. Mæhlum 2007).

More than 4500 pupils between grades 1 and 13 at 86 different schools from all over the country participated as both citizen scientists and respondents in the study (by December 2014; Svendsen, Ryen and Lexander 2015). While a total of 4500 pupils is clearly not representative for Norway as a whole, it is nonetheless a sizeable body and there is no obvious bias in who volunteered as citizen scientists and as respondents. The pupils were equally divided by gender. Most of the pupils were between grades 5 and 10 (i.e. from 9/10–15/16 years old, $N = 3770 = 84\%$). Most participants lived in the east, in and around Oslo, and in the west, in and around the second largest city, Bergen. The pupils were given two online surveys, one where they could register their own responses, and a second where they registered their peers' replies (for the questions in the surveys in Norwegian, see www.miljolare.no/aktiviteter/ord/ and www.hf.uio.no/multiling/english/people/core-group/benteas/ for English versions). The questions in the surveys were developed in collaboration with pupils in one of the school classes, a 'focus' class (grade 6 in a school in the county of Akershus), where the pupils expressed particular interest in investigating slang words, favourite words and 'words that adults are not aware of'. We assumed that this would be of interest to other pupils as well. As one ninth-grade girl in an Oslo-school expressed: *I love slang!* In addition, the study included questions informed by research into family bilingualism, particularly the work on language maintenance and shift in the family (e.g. De Houwer 2009; Lanza and Svendsen 2007). The surveys aimed to create a two-way collaboration – to the citizens and their research interests and scientifically tapping for the first time into a large-scale national investigation of family language use and competence, as well as the young people's attitudes towards the use and spread of English. Transferring (parts of) the researcher role to citizens spread over large geographical areas – as in the Research Campaign – requires careful consideration of the information and guidelines provided for carrying out the task (see below). The task needs to be limited and structured to ensure that it is not too time-consuming or too complex to handle relative to the citizens' age and those (here: teachers) who are in charge of implementing the project. The two surveys consisted of questions and statements that the pupils could tick off and spaces where they could add observations. After the pupils filled in the first survey, they printed a hard copy of the second survey and interviewed other pupils at their school. They wrote down the answers (Figure 1) and registered their findings in the online database.

Pilots were conducted in three classes, including the focus class, at three different schools across the country, which served as trials to see how the electronic surveys and registrations worked together. The online interface was constructed so that the pupils and their teachers could and still can use it – as they were encouraged to – to explore geographical, gender and age-related linguistic variation at the end of the data collection. We developed in the online teacher guidelines various pupil-conducted, reflexive, ethnographic tasks for



Figure 1: Young citizen scientists in action at Vassbonn primary school, Kolbotn, Norway (Photo: Thomas Keilman)⁴

the pupils to further investigate the interrelation between linguistic and social diversity. Apart from reports from some of the teachers and particularly the focus class' teacher on the pupils' 'engaged and enthusiastic' use of the database for analysing the interrelation between linguistic and social diversity, we did not systematically evaluate how the database and the research results were used in (and outside of) the classroom after the data collection and registrations, which definitely would have been an asset. That said, the subsequent use of the database (see below) shows that the pupils (and their teachers or others) have used the database for analytical purposes as reported by the focus class' teacher and other teachers. The pupils' role in setting the research agenda, their collection of data, their registration of them and their subsequent use of the database for analytical purposes separate the pupils' role as citizen scientists from pupils as 'mere' fieldworkers. To ensure a two-way communication, the pupils and their teachers could – and did – contact the researchers either directly or through the Campaign's website. In the next sections, the scientific and public impact of the Campaign are discussed as well as methodological and theoretical considerations of conducting this citizen sociolinguistics-project. The scientific impact of the Research Campaign in the following section is based on an analysis of the pupils' data.

THE SCIENTIFIC IMPACT OF THE CITIZENS' DATA

The young citizen scientists provided the first national large-scale data set on the use of English among young people. The citizen scientists reported that their peers – and they themselves – felt positive about using English words in Norwegian (66%) and some of them stated that they use *norsklish* (*norsk* 'Norwegian' + 'English') or *norglish* (*Norge* 'Norway' + 'English'). A whopping

70 per cent of them registered that they use English every day, most frequently in conversations with friends (78%), in chats (67%), text messages (60%) and in computer games (38%) (Svendsen, Ryen and Lexander 2015). Most of the pupils endorse the use of English words in Norwegian ('very good' and 'good' = 66%). There are few age differences but the older they are, the more likely they would be to register the use of English as 'neither good nor bad' (in total 26%). The negative answers ('not good' and 'bad') are the same across all school levels (in total 8%) (Svendsen, Ryen and Lexander 2015). The most frequent arguments for using English are that it is educational: *we teenagers learn much from it and that is good* (girl, upper-secondary school) or that *it's fun* (girl, fifth grade) and that *it's cool* (boy, fifth grade). The negative attitudes towards the use of English ('not good' or 'bad' = 8%) are expressed as fears for language loss: *it is bad because we lose important Norwegian words and in the end we will hardly have any Norwegian words left* (girl, eighth grade) or that *it is difficult to understand* (boy, fifth grade). Their general passion for English is also reflected in the most frequent words the citizen scientists collected. The most frequent words 'of which adults are not aware' are in English, namely *lol* ('laughing out loud'), *yolo* ('you only live once') and *swag* (denoting a 'cool' style or behaviour). These words are most often mentioned among the 'tweens' (10–13 years of age), while slang words from other languages, such as Japanese, prevail among the upper-secondary school pupils (Bjorvatn 2015). Interestingly, the pupils in the Campaign translated *yolo* into a Norwegian acronym *dleg* (*du lever en gang*, 'you live once'), the twelfth most frequent word in their data. In comparison to former Norwegian studies of slang (e.g. Drange, Kotsinas and Stenström 2002), the pupils in the Campaign accounted for a higher use of acronyms and abbreviations; probably due to technological advances, such as SMS-texting and chatting, where brief formulations are required. As a result of globalisation, young people experience an increased linguistic, social and cultural diversity and thus possibly adhere less to positivist ideas of language and are more likely to engage their language repertoires in practices of 'linguaging' (e.g. Jørgensen 2008). If this is so, as demonstrated by the young citizen scientists, it is particularly interesting in the case of Norway, and Europe more broadly, which traditionally has been home to definite ideologies of language (e.g. Blommaert and Verschueren 1992).

The Research Campaign represents the first national large-scale attempt to tap into language use in Norway's multilingual homes. English was reported to be the second most frequently registered language, after Norwegian, in family interaction for those pupils who stated that they use two or more languages daily (N = 532). The language labels given by the pupils – as reflected in Figure 2 in the pupils' own words – were diverse and constitute a study worth exploring in its own right. We have not taken into account the extent to which the given labels represent conventionalised 'languages'. This explains entries in Figure 2 such as 'Kebab-Norwegian', 'Ecuadorian' and 'Pakistani'. (Labels like



Figure 2: Languages in family interaction – mother, father, other adults, brothers and sisters (N = 532. Norwegian is mentioned by 497 pupils, English by 273 pupils. In Figure 2, Norwegian is excluded and a ‘dummy’ (60) representing the 273 pupils is made for English, since these two languages would have dwarfed the other languages.)

‘East Thai’, ‘West Thai’ and ‘Standard Thai’ are, for the sake of brevity, grouped as ‘Thai’.)

Of the 532 pupils in Figure 2 who reported using two or more languages daily, a total of 95 languages other than Norwegian were reported as spoken in their families, and the vast majority of the pupils also included Norwegian (497). Hence, the various home languages have a competing language in the family domain, namely Norwegian. Such a result is perhaps not so much surprising as it is intriguing, given that this is the first national study in Norway reporting on home language use. This observation is particularly relevant with regard to the potential for language maintenance and stereotypes of an ‘immigrant home’ as a place where only ‘minority languages’ are spoken (cf. e.g. *Atekst Retriever*). In pupil/teacher interaction, the selection of home languages in Figure 2 is reduced to Norwegian, English and typical foreign languages (Spanish, German and French) (Svendsen and Ryen 2015). Among pupils, the use of Spanish, German and French is limited to secondary school, where they receive foreign-language instruction. The use of *other* languages in pupil/teacher interaction is reported by only a few pupils (pupil to teacher: 21; teacher to pupil: 21, Svendsen and Ryen 2015). This is hardly surprising as Norwegian is the language of instruction and there are

barely any so-called mother-tongue teachers left in Norwegian schools (Grunnskolen informasjonssystem 2017).

The census-like data from the study showed us that the broad spectrum of multilingual competence is largely invisible in the classrooms and is therefore an unexploited resource. The data from this CS-project allowed us to initiate a new, nation-wide study, *Room for languages?* (Ipsos 2015) to further investigate linguistic diversity in classrooms. In collaboration with the Language Council of Norway, we encouraged teachers and pupils to report in an online survey whether teachers employ the pupils' linguistic resources in the classroom, and if so, to what extent and how. The findings of this study substantiated the experience of the pupils in the Research Campaign, namely that the school languages are taken home, but the home languages are not brought to school (cf. Ipsos 2015). Hence, it seems that the pupils' *total* language competence is rendered relatively unexploited in the classroom and represents a vast pool of resources to draw on for learning and teaching purposes (cf. e.g. García and Li Wei 2014).

THE PUBLIC IMPACT OF THE RESEARCH CAMPAIGN

As a sociolinguistic methodological tool, CS has the potential to create public engagement and enthusiasm by including laypeople in sociolinguistic research as we experienced in the encounters with the pupils in the Research Campaign, and as such it might contribute towards stimulating 'civil' curiosity and further research activities (cf. Dickinson et al. 2012). In the CS-project above, the contribution to the citizens (and others) was the database developed by the citizens themselves and the various pupil-conducted, reflexive, ethnographic tasks published online, suitable for further data collection and analysis. The research team provided a research report of some of the findings with the pupils as the target group (Svendsen, Ryen and Lexander 2015) and developed various activities based on the Research Campaign (e.g. language quiz, language game, posters), which were set up for the public in the four largest cities in Norway: Oslo, Bergen, Trondheim and Stavanger, as part of the annual *Research Market* ('Forskningstorget') arranged by the RCN. Parts of the citizens' results from the Research Campaign and the various activities for the *Research Market* were included in a language exhibition developed afterwards: *Oslo sier. Språk i byen* ('Oslo says. Language in the city') at Oslo City Museum from May 2016 to April 2018, which had more than 100,000 visitors in 2016.⁵ (See film commissioned by the author and produced by Anwar Saab: 'Oslo sier' at www.youtube.com).

As stated above, one of the key aims of the Campaign was to raise (socio) linguistic awareness or knowledge among young people by including them as citizen scientists. One indicator of the impact of the Norwegian CS-project is the subsequent use of the database. In a period of seven months after the Research Campaign (1 November 2014–30 June 2015), the database had 14,798

visitors, 9021 of whom were unique. In the same period, the result pages had 9537 visitors, 6662 of whom were unique. (In this period, the number of new registrations was small, around 200.) Considering that the database had not been advertised, these numbers show that the database stimulated curiosity among the participants and the general public. The use might indicate that the pupils have furthered the research role, as reported by some of the teachers in the Research Campaign (cf. above), correlating various variables such as language use by age, gender and region or by searching for other results on the interrelation between linguistic and social diversity which again might increase language awareness and knowledge.

Another indicator of the public impact of the Research Campaign is the attention it received in the media while it was at its peak in the autumn of 2014. A search on the Research Campaign in *Retriever*, a media monitoring company in the Nordic region, reveals 28 articles published (on the web), seven of which are duplicates (search string: 'tempen på språket' ['the temperature of language'], from 1 February 2014 to 1 March 2016 on the 1 August 2016, to allow for later registrations). More than half of the 21 articles were published in local or regional newspapers, typically documenting the young citizen scientists carrying out their language research (15). Many of the articles also reported on the pupils' competence in, and use of, English, on language mixing and on the Norwegian linguistic diversity in general (13), and four emphasised the metalinguistic impact of the Campaign, as shown in Excerpt 1 below. In this excerpt, the regional programme of the national broadcasting corporation (NRK Hedmark and Oppland, 17 September 2014) reports on seventh graders participating in the Research Campaign (translated from Norwegian):

Excerpt 1:

They are taking the temperature of language

The seventh graders at NN primary school are not only doing regular school work these days, they are also language researchers!

–What is your favourite word? The seventh grader is striking up a conversation with the fourth grader. She has the answer ready: Hi! Because it's a nice way to greet someone.

More aware of their own language use

The pupils claim that they use another language when they are with friends more so than when they are with their parents or write messages to them.

–I don't, for instance, write 'halla balla' to mummy, says NN.

She adds that she has become much more aware of the way she talks after she took part in the language project.

–I've become much more aware of my own language now. That's something which I haven't thought of very much in the past.

Language issues are of great public interest in Norway, and one of the discourses centres on English as a 'killer-language' (cf. Mæhlum 2007). The articles on the Campaign are given a dominant space in some of the newspapers; they are of substantial length, with large pictures of adolescents, some even on the front page. A command of languages other than English is rarely mentioned, and when it is, it arises in the interviews with the researcher in charge of it. There is only one quote from a boy who says that they speak Malay at home. Hence, the pupil's command of home languages was rendered invisible in the press and indicates that multilingualism, beyond English, was considered by the media to be of limited public interest (cf. Kelly-Holmes and Milani 2011). By demonstrating that young people embrace English, the journalists might implicitly allude to discourses on English as a 'killer-language' and bring alleged fears of English into play. In addition, the journalistic emphasis on language mixing might also bring about purist language ideologies of which 'knot' – a Norwegian expression for not speaking 'pure' – is held in contempt and ought to be avoided (e.g. Mæhlum 2007). On the other hand, the articles project images of a young generation far more globally oriented, at least Anglo-American-oriented, and with far better competence in English than earlier generations. A full examination of the impact of a CS-methodology, particularly on (socio)linguistic awareness would require comprehensive effect or reception analyses. The subsequent use of the database and the media articles on the Campaign are, however, indicative of CS's potential to stimulate curiosity and further research, and to enhance (socio)linguistic knowledge and awareness.

By engaging laypeople in sociolinguistic research and by potentially increasing (socio)linguistic awareness and knowledge, CS has a potential to stimulate linguistic stewardship, i.e. societal and individual planning and management of linguistic resources and linguistic diversity. The pupils in the Research Campaign demonstrated an eagerness to learn languages, especially in early grades, and they use English on a daily basis (Svendsen, Ryen and Lexander 2015). The pupils reported on a vast linguistic diversity and the analyses reflected prevailing hierarchical language regimes, primarily in the specific 'foreign' languages offered (Spanish, German and French), and secondly in the fact that the pupils' home languages are not drawn upon or actively used in the classroom, and thus constitute a large pool of resources to be explored and utilised for learning and teaching purposes. Invoking the detailed work by Heller (1999) on a francophone Toronto high school, the Norwegian pupils' language use, as revealed in the Research Campaign, is associated with transnational trends and commodification of languages – learning languages for the purpose of future jobs, for travelling, using *Norsklish*, reporting to 'know' several languages – rather than defined in

juxtaposition to nationalism (cf. Svendsen, Ryen and Lexander 2015). The results from the Norwegian CS-project provide, from our perspective, fodder for an education political and pedagogical change that acknowledges and stimulates the pupils' eagerness to learn and use language(s) and by introducing 'foreign' language instruction earlier than as of today (cf. above). Moreover, approaching language teaching with a translanguaging orientation where the students' multilingual resources are encouraged to be included – as emphasised, *inter alia*, by the Council of Europe (2017) and the Norwegian Official Report *Fremtidens skole* ('The future school') (NOU 2015: 8) – might enhance the pupils' (and the teachers') learning outcomes (e.g. García and Li Wei 2014). If schools – and the media – present Norwegian, English and the traditional 'foreign' languages as the only appropriate languages and as being 'better' than other languages, this devaluates other languages because, as Alim (2010: 208) emphasises, inevitably the students begin to see them and themselves 'as having a lesser role in places like schools where prestige matters'. A translanguaging orientation might thus increase the pupils' self-esteem and empower them by recognising their language competences as a pool of resources to draw on and not as a deficit on their way to acquire purported and vivid, albeit non-ontological 'languages', whether this is a 'standard' language, 'English' or commonly taught 'foreign' language. In the next sections, this paper discusses advantages and limitations of citizen sociolinguistics vis-à-vis the Norwegian CS-project outlined above.

CITIZEN SOCIOLINGUISTICS: TYPES OF SOCIOLINGUISTIC DATA

In the first instance, a CS-methodology has a potential to provide us with large-scale data, whether this is attitudinal, reported language use, recorded observations or qualitative data that can then be analysed and quantified. Beyond the large amount of data sets that citizen sociolinguistics can provide, as exemplified above in the case of the Norwegian CS-project, another key advantage is the potential to obtain quality data by eliminating researcher-subject relationships that can plague (sociolinguistic) research (e.g. Cameron et al. 1992; Trechter 2013). When the researcher role is (partly) transferred to the citizens, people might volunteer their knowledge and opinions more freely than to a professional scientist (cf. Eskénazi 2013). A 'freer' relation might, on the other hand, trigger nonsense replies and pejorative utterances, as experienced in the CS-project above, and requires structured and comprehensive processing of the raw data. In the Research Campaign, as part of quality control, the database registrations were monitored regularly.

A CS-methodology allows us to collect data in situations and from people that might otherwise be difficult to access. Citizen scientists can, for example, report on language use around the family dinner table. Placing a researcher in a home to study bilingualism or family members' translanguaging practices could

obviously result in methodological challenges with the researcher being an outsider (e.g. Kusow 2003). When that researcher is a citizen scientist in that family, however, such negative dynamics will not be present. With some direction as to what to look for, a citizen scientist may be able to collect, report on and interpret interactional or other sociolinguistic data, particularly when the CS-methodology is two-pronged: 1) the citizen scientists conduct their research, followed by 2) ethnographic analyses and/or interviews with the citizen scientists on what they did and how they did it; the latter to address individual methodological variations and to ascertain reliability, consistency and comparability.

The citizen scientists will not have the (socio)linguistic knowledge to handle data sets that require a scientific background (cf. Eskénazi et al. 2013). There will, therefore, be restrictions on the potential (socio)linguistic topics available for a CS-methodology. Collecting 'popular' words or reporting on language use might, for instance, be more applicable for a CS-methodology with regard to the level of citizens' language awareness than for collecting certain pronunciations for analysing sociolinguistic variation (cf. Wolfram 2013). Moreover, individual variation in talkativeness, in knowledge and in understanding of a (socio)linguistic topic might affect the efficiency and comparability of CS-data, unless the tasks given to the citizen scientists are, as mentioned above, limited and structured (cf. Eskénazi et al. 2013). These considerations might affect the possible sociolinguistic topics applicable to a CS-methodology for a certain target group, and the stringency of the tasks will affect the level of (socio)linguistic nuances in the data. In the young people's reports on language use in the families above, we do not know, for instance, whether 'Chinese' is referring to Mandarin or Cantonese (Figure 2).

There is a need to further develop a CS-methodology to include other sociolinguistic data, such as data on the ways citizens employ their linguistic resources in social interaction, as well as reflexive ethnographic analyses of the purported 'appropriateness' of various ways of speaking in different contexts to reduce the risk of presenting all languages and dialects as 'equal' by merely revealing the linguistic diversity through a huge amount of data. Analysing numerous (self-recorded) interactional data has traditionally been extremely time-consuming and costly in terms of transcribing and analysis, meaning there are obvious reasons why social media might be an alternative site for collection of interactional data, as argued by Rymes and her colleagues – in analysing threads, comments and answers (Rymes et al. 2017). However, language use in posts online is different from having a conversation offline (e.g. Neuhaus and Webmore 2012). As discussed above, metacommentaries on language and language use in social media does not really constitute citizen sociolinguistics, but is rather an extension of empirical sites for engaging in folk linguistics. In recent years, the development of .com solutions such as MTurk provides, moreover, efficient opportunities, *inter alia*, for data transcriptions (e.g. Eskénazi 2013).

CITIZEN SOCIOLINGUISTICS: RECRUITMENT, ETHICAL CONSIDERATIONS AND QUALITY CONTROL

An important dimension to consider when inviting volunteers to do CS is the recruitment process. Citizen sociolinguistics is based on the concept that people are particularly close to and inherently interested in language and its use in society. Invoking Wolfram's (e.g. 2011, 2013) 'linguistic gratuity principle', recruiting citizen sociolinguists requires careful considerations of potential 'awards' for participating. School teachers, heads and pupils may have grown tired of being under research lenses as objects. The collaborative nature of CS, where the pupils' research needs are included, will most definitely ease access. Collaboration is also a requirement to ensure research topics and questions which have a 'youth appeal'. In the Norwegian CS-project, it was particularly the pupils' request for 'words which adults are not aware of' that triggered enthusiasm, as we experienced when conducting the pilots for the Research Campaign. Moreover, we explicitly indicated on the web page how the Research Campaign was relevant for the Norwegian school curriculum, which we believe facilitated the recruitment process. The schools and teachers in the Research Campaign were recruited individually, often directly, most often through e-mails to school principals, but also through advertisements by means of the annual RCN's *Research Days* (www.forskningsdagene.no) and through direct contact when teachers and classes visited stands developed by the researchers for the *Research Market* (see above). The 'awards' for participating in the Research Campaign were as described under the public impact above.

Inviting volunteers to do CS can be time-consuming and organisationally demanding. Information and guidance material need to be developed, consent forms drawn up and implemented, and time must be reserved to answer questions, to follow up the electronic registrations and to communicate with the citizens. In CS-projects, to ensure two-way communication between the citizens and the scientists, scientific data and findings can be communicated to participants, for instance, through web pages, as in the Research Campaign, or through projects blogs, forums and Facebook pages which also serve as platforms for participants to discuss their findings and to raise new questions.

In contrast to most CS-projects in natural sciences, citizen sociolinguistics requires third-party consent when people are involved. Human participant research implies ethical ideals of the autonomy of the person, confidentiality, respect for the person involved and avoidance of causing any harm. To ensure ethical ideals of autonomy of the person and confidentiality, informed consent and anonymising data are the primary technical and procedural steps for minimising risks to human subjects (for guidelines for ethical conduct for research involving humans, see e.g. Linguistic Society of America, the Norwegian National Research Ethics Committees or Panel on Research Ethics, Canada). Leaving the data collection to citizen scientists requires serious ethical

consideration of how to manage third-party consent to ensure ideals of confidentiality and autonomy of the person regardless of mode: e.g. verbal interaction, social media or internet pages. In addition, when working with children, permission from national ethics boards and parental consent are required. In the CS-project above, a disclosure to third parties and their parents was needed concerning the possibility of subsequent uses of the data outside the research setting that might unintentionally reveal subjects' personal identities. Stepping aside as a researcher and leaving the data collection to citizen scientists involves a risk that such ethical requirements may not be taken care of. In the Campaign, we therefore developed information sheets and consent forms and engaged the pupils' teachers in managing them.

There is an inherent risk with a CS-methodology that important sociolinguistic information (e.g. age, gender, education) are rendered sparse, in particular regarding third parties. Ensuring validity of the CS-data thus requires careful consideration of the type of information needed about third parties and how to collect that information for the specific CS-study in question. Moreover, as mentioned above, a quality control of sociolinguistic CS-data requires comprehensive processing of the raw data to weed out nonsense registrations and pejorative utterances.

CONCLUSION

This paper has sought to contribute to the discussion of citizen sociolinguistics as a growing field within sociolinguistics (Rymes and Leone 2014; Rymes et al. 2017). In contrast to Rymes and her colleagues, this paper defines, in alignment with recent research on citizen science, citizen sociolinguistics as the engagement of citizens in *doing* sociolinguistic research where the level of public involvement and collaboration varies according to the research questions and the design of the CS-project. The Research Campaign engaged pupils in research; it ensured reciprocity by securing a two-way communication with the citizens (and their teachers) in the process; in that it sought to contribute to the citizens by including the pupils' research questions; it provided the database in which they themselves contributed data to be explored in (or outside of) the classroom; it provided the various reflexive ethnographic tasks on the interrelation between language and social diversity to stimulate language awareness through more research activities, by providing the research report as well as including the Research Campaign in activities and venues for the general public; it sought to contribute to the scientific field by being able to tap into large-scale national data on language competence, practices and attitudes.

Citizen sociolinguistics is more than a 'mere' methodology; it requires a shift from the traditional way we conceive science. Citizen sociolinguistics is about stepping aside as a researcher, leaving the researcher role – with guidance as to what to look for – to the citizens. That said, professional sociolinguists need

to control the research process in terms of managing the CS-project, in considerations of the recruitment process, in terms of the tasks given to the citizens and in terms of ethical considerations and quality control. To ensure the validity of the sociolinguistic CS-data, there is a need to carefully consider which kind of sociolinguistic information is required. Nonetheless, a (partial) transfer of the research role increases the potential ethical risks involved with human participant research. Hence, citizen sociolinguistics raises, as discussed in this paper, ethical challenges for sociolinguistic research, as well as epistemological challenges concerning what CS-data represent and which claims can be made from them. Epistemologically, with a CS-methodology we are decentralising authority on who holds 'legitimate' knowledge about language. As such, we recognise citizens as competent contributors to research, and we gain possibilities to explicitly explore language users' contributions to linguistic data, arguments and theory. Citizen sociolinguistics is about opening the dialogue between 'the academy' and 'the citizens'. As sociolinguists researching language in society, citizen sociolinguistics actively engages society in this research process.

As many research funding agencies put stronger emphasis on public participation and engagement (e.g. Horizon 2020, US National Science Foundation), there is a need to develop methods and establish scientific acceptance for the relevance of public contributions to research to meet the needs of society and societal challenges of today. This paper has discussed citizen sociolinguistics as a supplementary methodological tool where it is argued that citizen sociolinguistics relies on and creates public engagement, provides research experience, stimulates curiosity, further research and (socio) linguistic awareness, as well as public understanding of science. Enhanced public critical language awareness might promote linguistic stewardship and involvement of non-scientists in the decision-making process about policy issues and, as such, strengthen public participation in democratic and policy processes. Accordingly, citizen sociolinguistics has the potential to advance the societal impact of sociolinguistics. Last but not least, and perhaps the most striking reason for embarking on a CS-project – as the citizen scientists in our study expressed and as we ourselves experienced throughout the Research Campaign – is that it is great fun.

NOTES

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2. In 2014, the Centre for Multilingualism in Society across the Lifespan (MultiLing), a Centre of Excellence at the University of Oslo, won the bid for the Campaign.
3. There are five different Sami languages in Norway: North Sami, South Sami, Lule Sami, Pite Sami and Ume Sami, three of which (North, South and Lule) are written languages. Ume Sami seems to be extinct in Norway (www.sametinget.no). All the Sami languages and the three 'minority languages' Kven, Romani and Romanes are listed on UNESCO's atlas of endangered languages.
4. Permission for print is granted by the pupils themselves, their parents and teacher, and by the photographer.
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