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# Enabling new democratic processes in Schools

## FlashPolls – student participation and contextual polling

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**Abstract.** This paper describes how the FlashPoll@Schools contextual polling tool could be used as an instance of furthering the democratic process in school, and in particular student participation and student democracy. Findings from two initial pilot tests of the FlashPoll@Schools tool in a school in the Stockholm area are used as backdrop for discussions on decision making, public participation and student democracy. The position paper open ups with a presentation for future work in the FlashPoll@Schools project in two intertwined veins; the development of the polling tool and pupil involvement in eDemocracy.
**Keywords:** Participatory decision making, Educational development, Polls, Democracy.

# Introduction

In this paper will we describe an ongoing study aiming improving student's democracy and participation in school development. The lack of preparing youths for an active participation in the life of society was already pointed out in the late 19th century by the Swedish author Ellen Key (Key, 1996) as a fundamental problem in the education system. Today the compulsory Swedish school is firmly

rooted in “democratic foundations” (Skolverket, 2011), equal to many other countries, however as noted by (Almgren, 2006; Aspan, 2005; Swahn, 2006) many elementary schools still has not been able to fully implement these recommendations for democratic working forms provided by the National Curriculum of the Compulsory School.

FlashPoll is a project funded by the EIT ICT Labs with the goal at identifying municipal areas of application for mobile citizen participation. The objective of the FlashPoll project is to develop a location-based and context-aware polling app that provides a direct communication channel between citizens and administrators in order to enable citizen participation in urban planning decisions. The FlashPoll application makes use of contextual information and spatial data in order to analyze and address certain target groups of citizens within municipal areas. Inviting citizens to give their opinions through their mobile devices offers a possibility for more contextualized polls. Since the tool is being developed for public clients, data protection and privacy rights are of great concern. The tool is currently tested in the cities of Berlin, Paris, Nantes and Stockholm. Here will we mainly focus on the FlashPoll@Schools case where the FlashPoll tool is currently deployed and used in a public elementary school, ABC School, in Stockholm.

The FlashPoll@Schools case has during its first phase, produced a set of questions in collaboration with the teachers of ABC School in , Stockholm. Thereafter pupils and teachers have been introduced to the technology and questions of the FlashPoll app. Two pilot tests have been conducted, the first of which aimed at evaluating the technology and the questions, where different formulations and possible answers was tested. The second pilot test aimed at evaluating the technology in a larger group.

In the next section will we start with a brief view on decision-making and public participation to turn into the more specific issue of student democracy and the Swedish national curriculum take on “democratic foundations” in *compulsory* school. A short overview of the Flashpoll project will then precede a description of our ongoing work on deploying and testing FlashPoll@Schools in ABC School.

# Decision making and public participation

Whilst there have been many decision analytical approaches proposed during the last two hundred years, these usually place far too many requirements on decision-makers for realistic and rational decision making. Similarly, they normally impose working processes that are not already parts of the regular processes used in organisations. Naturally, in public decision making, components

such as citizen involvement and transparency issues complicate the process further, e.g., (Hanson et al., 2012) discusses extensively.

As discussed in e.g., (Danielson et al., 2007a, 2009, 2010) we have been conducting projects regarding different facets of decision making with the goal to enhance the efficiency, transparency, and rationality involving utilization of new communication modalities. Here one example is how we in a FORMAS[1] supported project designing and implementing public participatory decision making, in using multi-criteria, multi-user settings in two municipalities in the greater Stockholm area. In these we try, through various participation channels, to investigate the issues of citizen communication, elicitation, and involvement, while as far as possible attempting a rational and systematic treatment of the information delivered. Thus, in short the idea is trying to enhance the efficiency and transparency as well as rationality, while developing methods for realistic decision making in public settings. This is done in the context of a process model for public decision making, which is inclusive to many stakeholders and decision-makers.

An important aspect of this undertaking is to analyze the complex issues of how governance arrangements and formal planning processes as such can be structured to effectively accommodate inputs from various citizens in a decision framework, including usable and transparent decision methods equipped for handling a multitude of citizens and multiple decision-makers. This aspect of the research agenda focuses more extensively on means and tools for how citizen content may be analyzed, distributed, and utilized by decision making authorities in public decision making and planning. The general need to facilitate the expression of views, concerns, and opinions of the public are crucial not only to support decision-makers but to actually take part in the decision-making process.

**Democratic Participation**

For a process such as the above to be considered as reasonably democratic, it must at least be sensitive to the interests of various citizens, and consequently (i) allow for modeling of outcomes based on the different preferences, as well as (ii) facilitate a negotiation process where different views can be interactively adjusted when considering calculated outcomes, and (iii) provide a reasonable basis for broad participation.

A full design process in a public decision process implementation must acknowledge various views of citizens; at the same time, available facts must be used to increase citizens' insights of the outcomes by applying different preferences and multiple perspectives. Furthermore, it must also include models for how enriched content may be incorporated in real-life decision making and planning. This calls for a common model encompassing different points-of-view,

[1] The Swedish Research Council for Environment, Agricultural Sciences, and Spatial Planning

different perspectives, multiple objectives, and multiple stakeholders using different methods for appraisals. Thus, a minimum requirement for a participatory approach to make sense is that the resulting process is transparent, encouraging participation, for example by adequate feedback mechanisms, and enabling a rational treatment of the information delivered, preferably through a multitude of participation channels.

**Children as participants**

The above arguments on the challenges for participation is given further complexity when the public is not of legal age, as with children.[2] Being underage is not just considered of less legal right, as in legislation. Children are also often conceptualized as human becoming's, rather than human beings (cf. Prout, 2005), as not yet full members of the society. Hence, minors are in a subordinated position that in many respects can be paralleled with how i.e. women, or people of specific ethnicity, or people with disabilities, are treated. Aiming at including children in a democratic process thus need to take into consideration the generational ordering (Alanen, 1992), making age a complex issue intertwined of (but not limited to) biological age, cultural age and theoretical age. All of these approaching "the child" in different ways, but all positioning the child as a becoming and not a full being. The democratic participation of children are therefore often limited to tokenism, using more or less random utterances from children as cute illustrations of the other.

In this project we aim at not only come closer to the voice of the young citizens by using polling tools that they are familiar with, but also to include them in the actual process of both developing the FlashPoll tool and in the research process. The minors that we will work with are pupils at the above mentioned compulsory school in the larger Stockholm area.

**Student democracy and the national curriculum**

The compulsory Swedish school is firmly rooted in "democratic foundations" (Skolverket, 2011) as is the first statement in the National Curriculum as its "Fundamental values and tasks of the school" are presented.

*It is not in itself sufficient that teaching only imparts knowledge about fundamental democratic values. Democratic working forms should also be appliedin practice and prepare pupils for active participation in the life of society. (Skolverket, 2011, p10)*

Even if this can be discussed in relation to the compulsory school being an exercise of authority as every child are obliged to be part of the *compulsory*

[2] Children are those that are under the age of 18 years old, according to the UN Convention on the Rights of the Child

school, the school is at the same time based on that "democratic foundation". It is then left to each teacher, and each headmaster, to turn those phrases into work of practice. The democratic participation of pupils in the school is in consequence defined by others than themselves, making the compulsory school a fascinating object of study. Moreover, the student democracy is a complex, and in many respect tricky, thing it need to be understood as something profoundly deeper than participation of the pupil in the teacher-caretaker meetings or the colour of furniture in the common room. According to the National Curriculum of the Compulsory School in Sweden (Skolverket, 2011) in the section "Overall goals and guidelines" it is stated that:

*The democratic principles of being able to influence, take responsibility and be involved should cover all pupils. Pupils should be given influence over their education. They should be continuously encouraged to take an active part in the work of further developing the education and kept informed of issues that concern them. The information and the means by which pupils exercise influence should be related to their age and maturity. Pupils should always have the opportunity of taking the initiative on issues that should be treated within the framework of their influence over their education. (p.17)*

The compulsory school thus becomes an interesting arena of democratic participation, as all teachers, headmasters, etc., need to take into consideration the informed views of the pupils. This complexity of this undertaking can be seen as student democracy tend to be experienced as (and positioned as) influence rather than real power (Aspan, 2005); most often teacher driven rather than student driven (Swahn, 2006); and that student democracy is greatly difficult as the students do not get the appropriate knowledge on what democracy is, how it is practiced, etc. (Almgren, 2006). The issue of student participation, and student democracy, has a long tradition within the field of philosophy of education. Already late 19th century the Swedish author Ellen Key argued for increased participation of the pupils in the school, as a way of making the school relevant for them (Key, 1900/1996). Many of her thoughts are shared by John Dewey (1897/2011), Janusz Korczak (1929/2011) as well Paulo Freire (1970) and Peter McLaren (2007), all advocates for the need of listening to and taking serious the perspective of the pupil/the child, and giving this pupil full respect as a competent subject and citizen.

**A municipal FlashPoll tool**

FlashPoll is a project runned by EIT ICT Labs with the goal at identifying municipal areas of application for mobile citizen participation. Thus the purpose of FlashPoll is – for one – to explore mobile online solutions for political decision

making in urban development and – for another – to provide options for participation for groups with higher or lower affinity to new media.
The FlashPoll application makes use of contextual information and spatial data in order to analyze and address specific target groups of citizens within defined urban areas. Inviting citizens to give their opinions through their mobile devices offers a possibility for more contextualized polls and provides instantaneous sets of public opinion on current political and societal topics. Hence the tool aims to overcome four shortcomings common to online-polls:

- the manipulation of results by mass-voting by including a user-ID per mobile device which allows single voting only;
- the lack of a direct link between decision-maker (poll-initiator), respondent and the subject of the questions by using the spatial context as entry point;
- a too time consuming structure by using an App with limited space and characters,
- the lack of feedback for the participants of a poll by providing the actual poll-result directly after submission of the answers.

A quite common situation in administering municipalities is the need to take decisions of various scopes and with differing consequences for different administrative levels and target groups. Though participation has become a regular element in administrative decision processes, we have learned in recent years that early communication is not always enough to guarantee a successful and satisfying result. It also needs a continuous and transparent dialogue and feedback. To this end, a mobile application for flash-polling can facilitate municipal decision making processes by means of a feedback function.

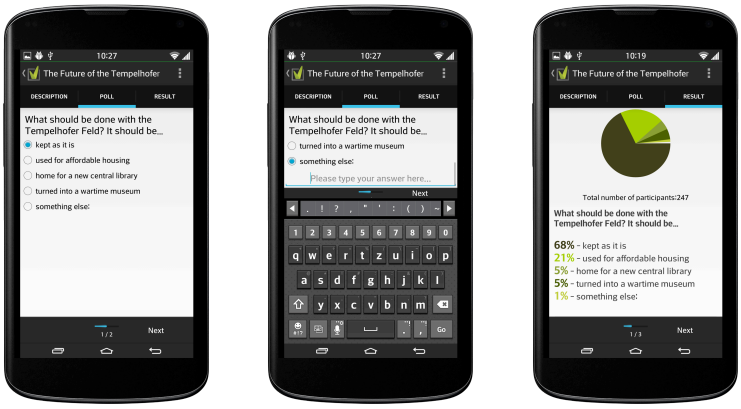

Figure 1: The FlashPoll App

# FlashPoll@Schools

FlashPoll@Schools is carried in collaboration with the "I Use IT" project. "I Use IT" is a research collaboration between Stockholm University (SU), Royal Institute of Technology (KTH) and ABC School in aiming at developing new tools and methods based on mobile technology for longitudinally following students, teachers and parents and their experiences of the school, schoolwork, homework, and their experiences of involvement and participation. "I Use IT" is supported by the city of Stockholm.

**Approach**

Senior researchers with different backgrounds from cognitive psychology, linguistics to pedagogy created the initial set of question. The questions in the initial set were based on Lgr11 (the National Curriculum for the Compulsory School). These questions went through 3 iterations before they were used.

i. Two researchers completed the first iteration in order to standardize the questions into a uniform and easy to understand format.
ii. The second iteration was carried out at the school in collaboration with teachers from the school in order to phrase the questions to more directly target the student population of the school. Ambiguities and to difficult questions were changed into a format that would fit the student population.
iii. A third iteration was carried out in order to further ensure a uniform and easy to understand format of the questions. Some of the issues raised during the second iteration were addressed, often dealing with key concepts used in the school environment and how suitable these concepts would be for the high-level goals of the study.

The questions had two foci: Involvement and participation on the one hand and technology on the other. The questions were designed by researchers at KTH/SU in collaboration with a teacher group at ABC School. The issues were divided into four different groups: (1) Experiences of motivation and engagement in schoolwork and homework; (2) Experiences of being able to influence the schoolwork and homework; (3) experiences regarding support and scaffolding in

schoolwork and homework, and; (4) Experiences of succeeding/failing to reach learning/teaching goals.
The technical aspects covered in the questions referred to the technical environment, such as iPads and mobile phones. Since ABC School has distributed iPads to all its students, the questions about how they use this technology for both school and leisure are of importance.
Following the design of polls, the FlashPoll tool has so far been tested two times in two pilots. First, in a small-scale test carried out in one class of 19 students, aged 14 in where the students took the poll three times (49 polls in total). A second pilot-test was carried out in order to make sure the technology would work even with a larger number of students, ie. here 111 Students replies and 25 Teachers (952 polls in total).

**1st pilot**

One class of 19 students aged 14 took the poll three times during one week in November 2013. The FlashPoll app was introduced in class before the first poll by the project team. Each student has an iPad for school work, which they used to login to the poll and to answer ten questions. The questions were on how they used technology and on student participation. In the first poll the questions focused on technology and the second and third poll were focused on student participation. The questions were longer and more complex in the second poll compared to the third poll. At the end of each poll the students were presented with a thank you message. Eight students were interviewed in pairs at the end of the first pilot test. The student pairs were selected by their teachers.
During the interviews students found it easy to use the FlashPoll app and to answer the questions. One student had problems logging in, possibly due to ill formed error messages in the prototype implementation. But overall, the web app worked well.
The interviewed students found that answering ten questions each time was the right amount or possibly too few questions. They found that the questions could have been more varied and that it was not clear how exactly the questions varied from the second to the third poll. When asked, the interviewed students said that they had no problems understanding even the longer and more complex questions. What the students found difficult was how to answer questions referring to the school tasks they did previous the same day as they had many subjects and related activities. They also found it difficult to answer questions about the current activity, as the current activity was to take the poll rather than a school task. To overcome these difficulties the poll questions could refer explicitly to the current school subject or task by name, however this would make the poll more difficult to set up.
The students wanted to expand the scope of the poll to include questions about their spare time. The students did not have opinions about what to present at the

end of the poll, but they were positive to display the overall result for each question as a percentage number. The students expressed that no matter what kind of feedback given at the end of each poll, the feedback should always be anonymous or abstracted away from individual respondents.

**2nd pilot**

During the last week of the autumn semester, a three days test, including all students and teachers at the school, was carried out. The reason behind this was to test the technology further and make sure that the FlashPoll tool would run smoothly with numerous simultaneous users. The group decided to ask questions related to the Christmas leave and attitudes towards going back to school in January. The questions primarily aimed at also introducing the tool before further tests in 2014. The second pilot test was announced to teachers at a school employee meeting and on the school´s website and was answered by 21 teachers and 89 students in total, also raising some issues with the FlashPoll app, which needs to be addressed before the full-scale study in January.
First it should be noted that one main objective with the 2nd pilot was to test how the technology behind Flashpoll scales and work even with a larger number of students. Hence these results need to be followed up with more polls to be verified. Anyhow the analysis of the data from the 2nd pilot provides us with some interesting preliminary findings. To start with we can note an interesting difference in response rate between genders, see figure 2, i.e. girls (59,6%) and boys (37,4%).

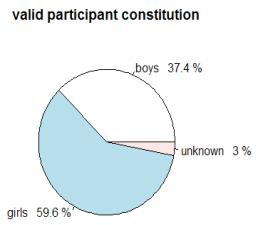


*Figure 2: Gender distribution 2nd pilot*

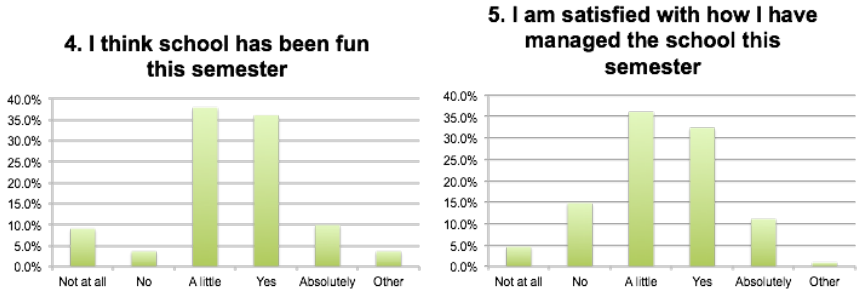


*Figure 3:Replies rates on Q4 and Q5*

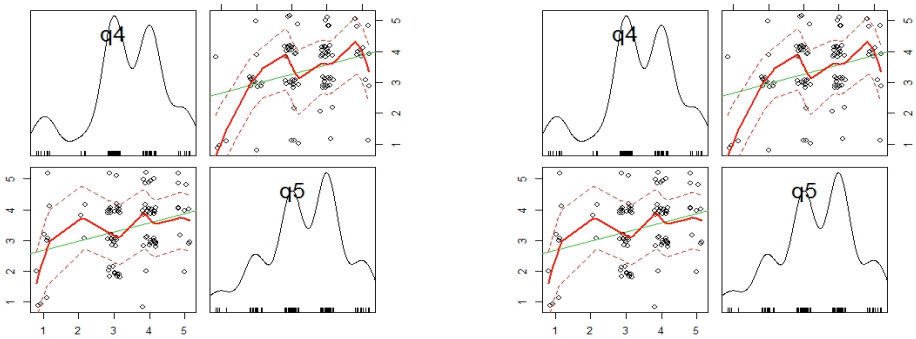


Figure 4: Correlation between Q3 vs Q4 and Q4 vs Q5
(Q3: It will be fun to come back to school in January)

We can also see, figure 3, some natural connection in the data, for eg the reply rate on question 4 (I think that the school has been fun this semester) and 5 (I'm happy with how I coped with school this semester). Digging further into the data we also find some other interesting correlation, like shown in figure 4 (p-value: 0.0001496 and p-value: 0.000634), and without going into the too specific details it seems that we can conclude that (1) The happier last semester was, the more willing to go back to school in January and (2) How to cope with school affects the feeling at school. These findings are indeed not that surprising but anyhow the main take-away lesson here are that we can see indications that the Flashpoll tool works in this setting and the data could provide new insights in how the students (and teachers) think about their situation.

# Early conclusions and future work

The work so far has been focusing on the implementation of the FlashPoll@Schools tool in the school we are working together with. By inviting the school to participate in already the early stages of the development of the FlashPoll tool, the teachers, pupils as well as the school management has been introduced to the tool and its underlying methodology – contextual polling, aiming at support for local but grounded decisions. We can conclude that both the Flashpoll tool works and has been appropriated by the school. This has opened up for new ways of approaching the complex issue of pupil participation and student democracy. Inspired by this we are now turning our attention to the perspective of how to get a deeper understanding of the perspective of the pupils in relation to eDemocracy. Primarily this is about their understanding of, as well as the conditions for furthering their understanding of, eDemocracy. But also how digital media in general, and the FlashPoll@Schools technology in special, can be used in this vein. Our ambition is to facilitate **workshops with pupils** (i.e. grade 7 or 8), on a theme with relevance for the overall ambitions of the FlashPoll@Schools project: Increased involvement in, and support for, participation as well as local decision making as supported by tools such as the FlashPoll@Schools. At the same time, the theme has to be firmly anchored among the teachers and of relevance for the more general school work.

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