

# e-Democracy: The Political Culture of Tomorrow's Citizens

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**Abstract.** The aim of this study is to investigate how Internet influences the political-social behavior of the members of the School Community. In order to do so we questioned students (tomorrow's citizens) and teachers of secondary schools and analyzed their understanding about e-democracy issues. The research is held by the department of Telecommunication Systems & Networks, Nafpaktos Branch of the Technological Educational Institute of Messolonghi with the participation of students and teachers from the Region of Western Greece. It was observed that Internet offers new possibilities for people's participation in the political process. The results show that students feel more confident against technology and Democracy in contrast to their teachers.

**Keywords:** e-democracy, e-voting, e-participation.

## 1 Introduction

Democracy has proven to be an exceptionally adaptive form of government through time. Its form has changed, from the homogeneous city-state in its direct form to multinational big-state in its representative form. The role of participants and the way of participation has been altered, from a small number of men, relatively old, to a big number of free citizens including men and women. All this period, democracy is still founded on several basic rules: equality of citizens, participation in common affairs, freedom of speech, the right of assembly and the responsibility of governors.

The effect of Information and Communication Technologies (ICTs) in politics and democracy and the role of students (tomorrow's-citizen), is highly relevant to the ability of offering catholic access to the Internet [10]. However, catholic access on its own is not enough. "If citizenship means catholic access, democracy needs reliable channels of information and public dialogue (deliberation) if is to flourish" [4]. Human's interaction is more important than the technological infrastructures.

What characterizes human communities in a globalised society today is their common interests and concerns. Virtual communities, blogs, digital cities form new social structures that function with the use of network technology. Their organisation and

their way of operation herald e- democracy. Due to the growth of communities, digital cities of the future will not have only geographic characteristics but also space-time ones. Consequently a new form of "redeployment of" the population of earth emerges, and one of the main issues will be how current representative democracy corresponds to new digital social structures. Democracy will be forced to redefine who can participate, the form of participation and how this will be utilised.

The definition of the term "e-Democracy" depends on the political culture of societies and the application scale (locally, nationally or globally). It is likely that nations will learn from each other while developing new practices towards this direction, international comparisons and standardised methods of evaluation. We can define e-Democracy as "Direct Operation of Democracy" [1].

"E-Democracy, aims to define the system components that will support increased participation of citizens, in the political process". It can not only be seen as a substitute of traditional democracy but as the communication, presentation and support of public interest and the decision-making through public dialogue and voting. Decentralization - a condition essential for the realization of direct participation that affects positively the political process - can be minimized strengthening the role of individuals, democratic control, transparency of processes and plurality [7].

The basis of democracy is an informed and active citizen. Many governments are positively activated towards developing the digital means for distributing information to the citizens. There is a lot of space to cover in order to "engage actively" citizens to influence world politics through the use of digital means. These facts include the most ignored side of e-Democracy, the strategic side.

### 1.1 Aim

The main aims of our study were to investigate: a) How Internet influences the political and social behaviour of students of secondary schools and b) How tomorrow's citizens realize the concept of e-Democracy. At the same time we conducted a comparative study based on the answers of students against those of their teachers.

## 2 Method

The utilization of our questionnaire was based on the use of open source software in order to implement a web based application to facilitate access independent from location of the users and immediate storage of the results. We developed a client server application, through the use of PHP and MYSQL.: <http://noc.tesyd.teimes.gr/erotimatologia>.

The home page includes information material about the methodology approach followed and the questionnaire used both for teachers and students. The users were granted access through a username, password mechanism. Passwords were issued, independently, upon request and registration for each school.

Our sample constituted of 722 of High school and Lyceum students and 102 public and private teachers from public and private schools of Western Greece. Data were stored in a mySQL database and SQL queries were used to analyse the results.

## 2.1 Data Collection

The questionnaires for students and teachers consisted of four parts. The first part was comprised of a set of personal data and data about the usage of Internet. The second includes questions about how students and teachers conceptualize e-democracy, e-government and the use of Internet in the political and social process. In the third part our aim is to obtain results of how the users react against means of participation similar to applications of e-Democracy. Finally, the fourth part includes questions about the challenges of e-Democracy, and generally Information and Communications Technologies in the new digital and social structures.

## 2.2 Data Analysis

In order to analyze how Internet affects the political and social behavior of students we investigated: a) the percentage of students which have access to Internet b) the relationship between accessibility of Internet and the educational level of their parents and the region they live, c) how many students have utilized Internet to participate in an e-voting process or use any means of communication with public delegates of services or visit a public institutions web site and obtaining information.

In order to analyze how today's students and tomorrow's citizens conceive e-Democracy we investigated: what in their opinion are the positive and negative issues, what are the possible challenges e-Democracy applications will face in the future.

Our comparative study of how students understand and realize the different issues against those of their teachers, we investigated: a) the use of e-democracy applications: e-voting, participation in forums, information retrieval from governmental web pages e.t.c.. b) The use of services that is related with subjects of e-Democracy and the factors that influences them. c) The different perspective of students and teachers.

## 3 Results

In the following section we present the analytical results of our study:

### 3.1 The Effect of Internet on Students and the Factors That Influence It

We present here the effect of Internet on students based on their availability to access Internet, the factors that govern it and the tendency of students to use e- Democracy services.

#### 3.1.1 Student Access of the Internet

The 72% of the students have access to the Internet. From the above percent the 54% have access from home, the 22% from school and the 18% from an Internet cafe. The reasons reported which probably that are responsible for not having Internet access are the failure of purchasing a computer (43%), the absence of interest (16%), the limited or no knowledge of using the Internet (14%) and the cost (10%).

It is obvious that the percentage of students with Internet access is by far bigger than what is reported in the total population. This familiarization of students with

Internet produces a positive prospect for tomorrow's citizens/users and emerges an increasing tendency for the use of Internet services.

### **3.1.2 Factors That Influence the Access of Students to the Internet**

The educational level of parents plays an important role on the percentage of students that access Internet. 44% of the students that their parents are graduates of Primary school have Internet access, (the 23% of them from home), 68% of those whom their parents are graduates of Secondary school, (the 29% of them from home) the 87% of those whom their parents are holding an University Degree (the 44% from home) and the 97% from those whom their parents have completed postgraduate studies (the 62% from home).

The place of residence also influences Internet access of students. From those that live in a city (up to 3.000 residents) access have the 48%, (the 24% from home), the 73% from those that live in a town (from 3.000 up to 15.000) (33% from home) and the 81% in cities above 25.000 residents (the 40% from home).

Summarising, students which their parents have obtained a Higher education degree seem to have a greater percentage of Internet access and mainly from their home. The students that are residents of cities appear also to have increased accessibility to Internet. School seems to be able to help in covering these differences through computer laboratories and information technology courses since they are available for all students.

### **3.1.3 The Tendency of Students to Use e-Democracy Services**

Participation of students in e-voting applications, use e-mail in order to express their opinion and visit governmental web pages to retrieve information are the main e-democracy applications reported.

In diagrams 1 and 2, we present the percentage of students that participated in e-voting applications, sent an e-mail to express their opinion or visited a governmental web page. In diagram 1 the applications are derived based on the educational level of their parents and diagram 2 based on the place of residence.

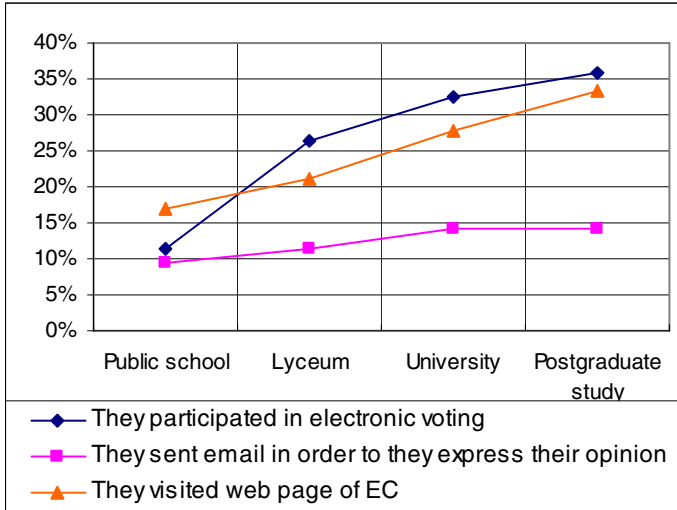
These diagrams suggest that the use of e-dem services, from tomorrow's citizens, is relevant to the educational level of their parents and their region. It is clear that these students are favourable candidates to easily become familiarized and actively participate in future e-Democracy services and systems. However strong doubts arise from the possibility of exclusion of social groups with low level of education or citizens of remote regions thus failing to support one of the main objectives of e-Democracy which is the increase of active participation of citizens in the political decision-making process.

## **3.2 Students Opinions for e-Democracy**

In this section we focused on the answers of students about what are considered to be the positive and the negative consequences of the application of e-Democracy and how they realise the challenges of e-Democracy.

### 3.2.1 Positive Repercussions of e-Democracy

In the question "In which of the following questions the exploitation of technologies of e-Democracy can have positive results", the choices of students were categorized as follows: a) More rapid and reliable benefit of services and information from government owned institutions (29%). b) More direct and bigger participation of citizens in the process of decision-making (27%). c) Enforcement of democratic processes and consequently Democracy (21%). d) Continuous feedback of government with the opinions of citizens 16%.



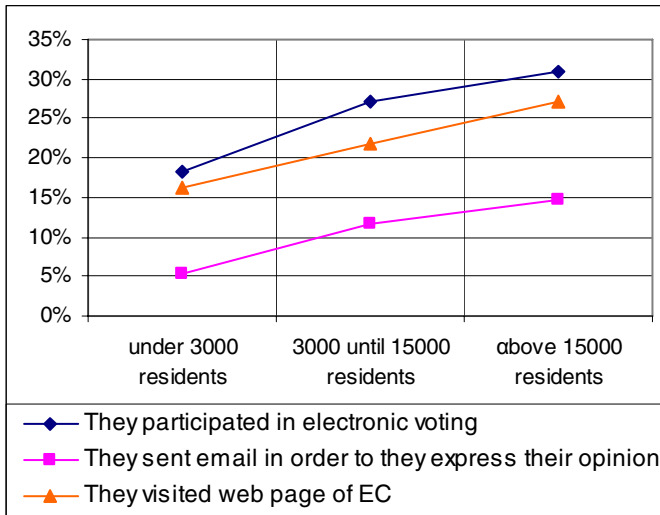
**Diagram 1.** E-dem applications used based on the educational level of parents

### 3.2.2 Negative Consequences of e-Democracy

Students were called to answer to the following questions: "In which of the following questions the exploitation of technologies of e-Democracy can have negative consequences". a) The creation of an impersonal e-citizen and e-state (36%), b) The division of citizens in "digital" and "traditional" (25%), c) The use of technology from the government in order to reform politics (20%), d) The weakness of the government to correspond and due to that the minimization of participation. (The problem of scale) (17%).

### 3.2.3 Realisation of the Challenges of e-Democracy

The students realise the possible challenges that can rise from the growth of e-Democracy through answering the following question: "What do you believe that they will be the bigger challenge for the e-Democracy" and they rated their answers as follows: a) The growth of technology thus being accessible by all (29%). b) The electronic activation of citizens (28%). c) The familiarization of citizens with the new ways of participation in decision-making (24%). d) The adaptation of governments in forming politics(14%).



**Diagram 2.** E-dem applications used based on the place of residence

### 3.3 The Opinions of Students Opposed to Those of Their Teachers

The comparative analysis of opinions of teachers against the opinions of students where deducted on subjects that concern the use of Internet in daily life, their participation in e-voting, and their opinions about e-Democracy from those who have Internet access and those who do not .

#### 3.3.1 The Familiarization of Use of Services of Internet in the School Community on Issues e-Democracy

The students use the Internet mainly for recreational reasons, but show big interest for e-voting. On the contrary, they don't use it for economic transactions and for purchase of products, as their teachers to mostly. Both students and teachers use the Internet for searching information and communicating by email. In the question concerning participation in Internet e-voting students appear to have participated more than their teachers.

**Table 1.** Answers of students and teachers, which have access in the internet, in the question: What are the reasons you use the internet

	Students	Teachers
Participation in forum discussions	29%	52%
Entertainment	79%	43%
Communication with e-mail	52%	89%
Economic transactions	1%	58%
Purchase of products	2%	59%
Search for information	57%	84%
Have you participated in voting via the internet?	46%	20%

### 3.3.2 How Do You Believe or Intend to Use e-Democracy in the School Community

The tendency of students and teachers to use services related with e-Democracy and the factors that influence their answers justify their perspective for an age of digital politics and democracy.

**Table 2.** Answers of students and teachers which have access to internet, in the question: Do you believe that our society is mature enough to accept e- Democracy applications

	Students	Teachers
YES	39%	29%

Students but also teachers that do not have access to Internet, consider in a high percentage that our society is not mature to accept e- Democracy applications.

### 3.3.3 The Perception of Students and Teachers for e-Democracy

Students and teachers that have access to Internet (Table 3) conceive the dynamics of new means of communication and intervention and they believe that e-Democracy will strengthen the role of citizens and government. On the contrary students and teachers that do not have access to Internet (Table 4), realise in e- Democracy the parts that are more familiar to them.

**Table 3.** Answers of students and teachers, which have access to internet, in the question: What do you believe is e- Democracy

	Students	Teachers
The strengthening of Democratic processes through the use of new technologies	29%	26%
The strengthening of the role of citizens and government with the use of ICT	33%	42%
Electronic deliberation of citizens with government organizations (delegates, public services and organisations)	26%	23%
e-voting and e-polls	9%	7%

**Table 4.** Answers of students and teachers, which do not have access to internet, in the question: What do you believe that e-Democracy is

	Students	Teachers
The strengthening of Democratic processes through the use of new technologies	10,81%	0%
The intensification of role of citizens and government with the use of ICT	17%	5%
Electronic deliberation of citizens with government owned institutions (delegates, public services and organisations)	6,49%	10%
e-voting and e-polls	54%	75%

The results of the research confirmed the existence of the “digital gap”. The answers between those having Internet access and those not having Internet access have a distinct difference. A challenge for those that have Internet access is to assure that students - tomorrow's citizens - will participate actively in a new Digital Democracy. The design and development of actions to enforce knowledge acquisition about e-participation is a very important issue in order to engage young people in a democratic decision-making process. Young people are familiarized with the use of technology, vote on line, chat rooms and potentially in the electronic expression of their opinions.

The challenge is the design and implementation of advanced services in such a way to support the exchange of opinions and to produce logical arguments and political thesis. Success of e-Democracy, according to the answers of the persons familiar with Internet, will be based strongly on the preparation of ICTs in order to encourage and familiarize citizens with public subjects, to hear and to participate in a number of forums. The need for acceptable and reasonable information will provide the spark for dialogue and solid opinions.

Education can help in enhancing public reason, and consequently in the intensification of participation. Such educational tools would offer the ability of young citizens to experience and understand the process of democratic decision making [8]

## 4 Conclusions

ICTs are part of the current culture of students and the school can be the place where participative democracy and electronic applications can be used. The familiarization of students on issues e-Democracy can begin through the school. This will contribute decisively in their tomorrow's active participation in the e-environment for democratic processes.

The use of Internet services can familiarize the students with e-Democracy issues and applications. Technology however cannot alone educate the students for the importance of participation. The education of students in order to define and understand important democratic issues should precede the use of technology.

The research's results show that, in order to achieve a sustainable growth of the Information Society, the adoption and diffusion of new means should not enforce existing inequalities neither fragment society to those who are able to access information and those not.

There is also, a number of participants in electronic participation such as the elected representatives, governmental persons in charge for the formulation of policies and citizens which need to be introduced in the world of new technologies. Many of the challenges of future are not strictly technological but more socio-economic. Structures should be developed for the support of e-democracy systems, in order to overcome organisational and cultural obstacles which are related with the adaptation of a new principle of Democracy.

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