

1ST INTERNATIONAL ACADEMIC CONFERENCE
PLACES AND TECHNOLOGIES 2014


BELGRADE, 3-4. APRIL 2014 | KEEPING UP WITH TECHNOLOGIES TO IMPROVE PLACES

editors:

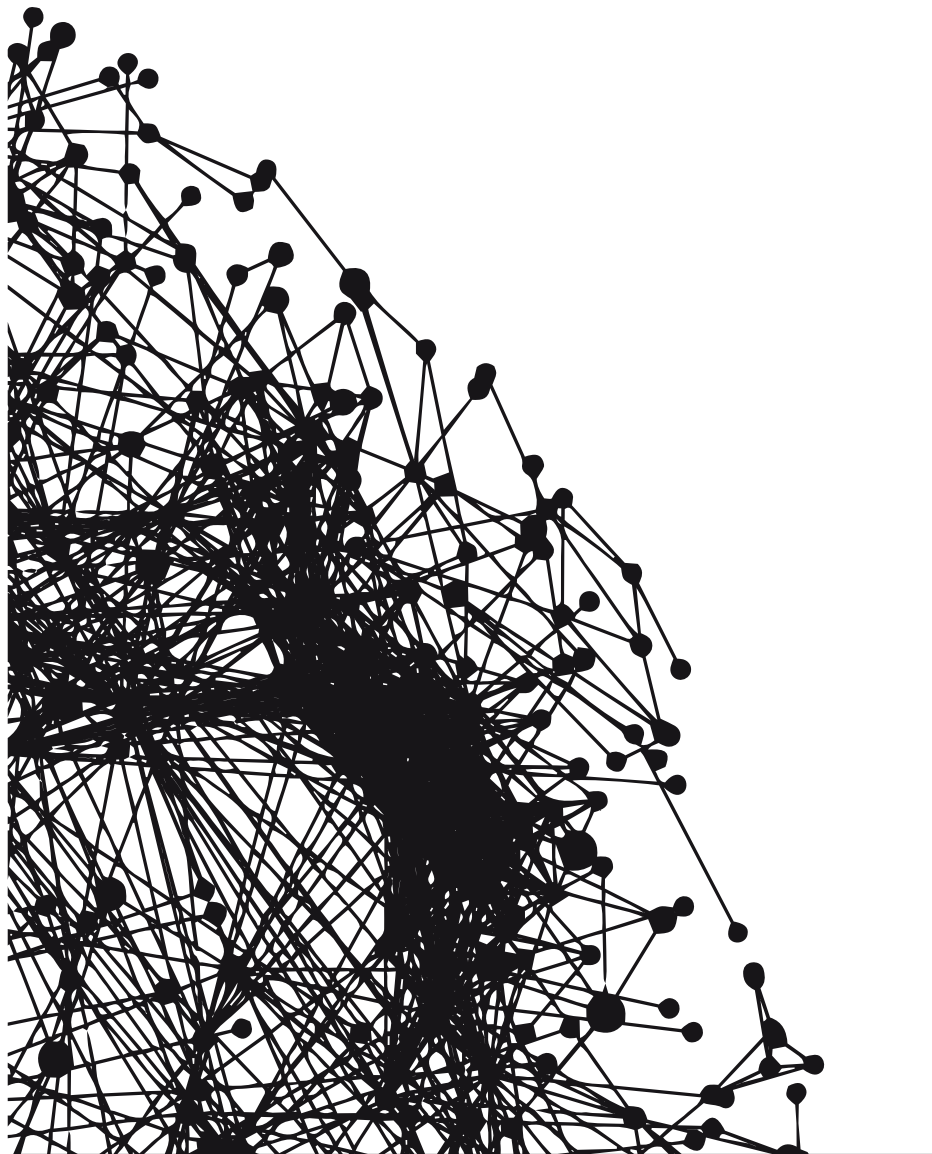
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ISBN 978-86-7924-114-6

www.placesandtechnologies.eu

Proceedings of INTERNATIONAL ACADEMIC
CONFERENCE ON PLACES AND
TECHNOLOGIES

APRIL 3-4, 2014, BELGRADE, SERBIA

PLACES AND TECHNOLOGIES 2014

PROCEEDINGS OF FIRST INTERNATIONAL ACADEMIC CONFERENCE ON PLACES AND TECHNOLOGIES

International Academic Conference on Places and Technologies, Places and Technologies 2014, will be the first conference organized by University of Belgrade – Faculty of Architecture, Professional association Urban Laboratory and University of Belgrade – Faculty of Philosophy.

Editors: Dr Eva Vaništa Lazarević, Dr Aleksandra Krstić-Furundžić, Dr Aleksandra Đukić and Dr Milena Vukmirović

For publisher: Dr Vladan Đokić

Publisher: University of Belgrade – Faculty of Architecture

Design: Stanislav Mirković

Place and year: Belgrade 2014

ISBN 978-86-7924-114-6

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

711.4.01(082)(0.034.2)
711.4:005.591.6(082)(0.034.2)

INTERNATIONAL Academic Conference on Places
and Technologies (1st ; 2014 ; Belgrade)

Places and Technologies 2014 [Elektronski
izvori] : keeping up with technologies to
improve places : conference proceedings : 1st
international academic conference, Belgrade,
3-4. April 2014 / [organized by University
of Belgrade - Faculty of Architecture,
Professional Association Urban Laboratory and
University of Belgrade - Faculty of
Philosophy] ; editors Eva Vaništa Lazarević
... [et al.]. - Belgrade : Faculty of
Architecture, 2014 (Belgrade : Faculty of
Architecture). - 1 USB fleš memorija ; 1 x 2
x 14 cm

Sistemska zahtevi: Nisu navedeni. - Nasl. sa
naslovnog ekrana. - Tiraž 150. -
Bibliografija uz svaki rad.

ISBN 978-86-7924-114-6

1. Vaništa Lazarević, Eva, 1961- [urednik]
2. Faculty of Architecture (Belgrade)
a) Градови - Мултидисциплинарни приступ -
Зборници b) Урбанистичко планирање -
Технолошки развој - Зборници

COBISS.SR-ID 206380812

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SAVING URBAN PLANNING FROM ANOTHER UTOPIAN MODEL

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Abstract

Criticism of wide civic participation, as a mean for every citizen to actively engage himself in decision making, including planning processes, has a long history and numerous voices. Although the model is plausible for its openness and somewhat necessary for achievement of contemporary democratic standards (governance transparency, accountability etc.), civic participation has long been criticized for its ineffectiveness, inefficiency and utopian characteristics. Yet, the very notion of the need for public to participate in important decision making processes came along with another novelty — the development and the widespread use of informational technologies. Emerging genres of online platforms combine specific technologies with various actors and activities, thus fostering different types of interpersonal interactions. They are becoming a source of information and a platform for public expression, and complementing traditional media. It is inarguable that new technologies, which support deliberation and information dissemination, can contribute to the increase of civic participation. Completely new range of modes of expression enable citizens to give their voice and to be heard, while fast and different forms of information dissemination contribute to citizens awareness and knowledge about different matters. It may seem that the circle of conditions for successful civic participation is closed. In this article we will discuss the possibilities of civic participation/engagement in urban planning processes through informational technologies, in relation to conditions that civic participation needs and critiques it is exposed to.

Keywords: *Urban planning process, Civic participation, Online communication tools, Information gathering*

CIVIC PARTICIPATION: PROBLEM WITH MASSES, PROBLEM WITH INDIVIDUALS

Participatory model in urban planning was derived out of “efforts to reinterpret a progressive meaning for democracy in Western societies” (Healey, 1992, p. 145). While considering progressive democracy, Healey aligned herself with the position of authors stating that democracy needs a system which promotes discussion, debate and competition among many divergent views, and that open debate, access to power centres and general political participation are key requirements for democratic public life. In an era of what is often referred to as democracy crusades

across the international scene, participative models of urban planning (among other) play roles of generating transparency and accountability of governance. When successful, they can contribute to the quality of proposed plans and strategies, by introducing different views and sources of information. Still, the main problem with participatory planning lies in its applicability in different situations and consequently in its success rate. It became evident that in many occasions participatory processes do not function, and that in some cases they can be counterproductive. (Bohman, 1966; Warren, 1992; Mansbridge, 1999; Guthman & Thompson, 1996) This deficiency of participation was adopted in planning along with benefits from participatory model in democracy, which is under elaborated criticism. The critique is mostly focused on this model's utopian character, depicted in what Hauptmann (2001, p. 399) calls "nostalgia for simpler societies and majoritarian biases" – the presumption that society is willing and apt for participatory processes, that it has the necessary characteristics to support the open and democratic participatory decision-making processes, and that the decisions made by citizens would be better, fairer and impartial in relation to those made by experts (Healey, 1992; Innes, 1995; Fischer & Forester, 1993).

Deliberative democrats who expose participatory model to critique literally number the characteristics of society which disqualify it for participatory processes and point to problems with demands of participatory processes toward citizens. They do not argue against participation in general, but envision it as a less 'mass' event — as an engagement of groups and organizations with clear and operable interests and goals. They claim that citizens can contribute to politics meaningfully and intelligently and should be enabled to do so more often if they want to - but it must not be an obligation for them, or something that governance and entire political system rely and depend on. (Cohen, 1997) The advantage of deliberative democracy (in the sense of a less utopian character) is that it does not involve an idea of ideal society where everyone's opinion is equally relevant. They suggest a system where opinions clash and the one that passes the test of the public can be accepted. They disagree with the notion that citizens' participation in decision making leads to changes in their own interests and changes in the social structure itself, as alleged by participatory theorists. (Hauptman 2001)

First set of critiques directed to participatory democrats concern citizens **will to participate** in the first place. Warren (1999a, b, 1992, 1996) based his criticism on understanding that the complexity of society makes the ideals, on which participative theory relies, impossible for exercising. According to him, the theory of participatory democracy is essentially too reliant on the wrong fact that people enjoy politics. Warren believes that this is a romantic dogma. Bohman (1996) argues that participatory democrats extrapolated participation in every field of life and casted a utopian shadow on their own positive democratic ideals. This requires participants to exercise excessive obligations, as well as qualifications, while the processes themselves take forever. According to Warren, citizens will see participation in politics as a burden, without great results, and let themselves to the cynical apathy, leaving the entire process to a handful of enthusiasts who will make decisions on

behalf of others, on the authority that participatory process will give to them (ironically in relation to the ideals of participatory theory). Also, for most people participation in decision-making activities means loss of personal freedom (in the sense of free time) without specific gain. (Guthmann, 1993)

Another issue is the problem of **majority strength and psychology of masses**. Benhabib (1996) and Gutmann & Thompson (1996) claim that most radical versions of participatory democracy are not apt to protect individual interests and human rights from the tyranny of the majority and mandatory consensus. In their influential work, Dye and Zeigler (2008) state that the irony of democracy is that the elite must rule wisely if the 'rule of the people' is to survive. In their view, the masses are "authoritarian, intolerant, anti-intellectual, nativist, alienated, hateful and violent." Gutmann and Thompson (1996) state that the political discussion, in order to be of good quality, has to be carried out among the citizens of equal status who can provide each other with reasonable, carefully constructed and morally justifiable arguments in the context of mutual respect. Ethically speaking, it is not certain that the decision-making by all citizens results in the quality of laws and policies, nor is mere participation justifiable reason for such outcomes.

Lastly, the very idea of wide participation undermines one of participation's key concepts that it can help **self-development of personality**. Bachrach & Botwinick (1992) and Warren (1992) state that this is based on the wrong assumption that ordinary citizens have the capacity to expand their interests in order to be able to identify the common good in them and to devote them to it. The utopian component is contained in the premise that the implementation requires a society where everyone is equal and a society which is not dominated by greed. According to these authors, we should not take a lot of faith in the reasonableness of ordinary citizens, and that masses are passive on matters of policy and are poorly informed about public affairs or politics.

The way in which participatory processes and its participants are envisioned hampers its efforts to achieve transparency of processes, quality of developed planning documents and accountability of decision makers. Still, the benefits of participatory processes, if assumed possible to avoid problems, are multiple and worth experimenting. Citizens possess detailed data about problems and potentials of area under planning process that no other analysis can show. In order to distil the benefits of participative model from its problematic setting, we must take into consideration the deficiencies presented by deliberative democrats. One possible way to overcome this problem is found in online communication. Many online platforms already provide the venue for different participants (visitors, members, clients, donors etc.) and different forms of participatory activity (connecting with organizations, searching information, learning about a policy field etc.). (Bruszt, Vedres & Stark, 2005) Without dealing with other problems or potentials of participative model, the aim is to examine which forms of online communication can help to extract above stated benefit out of participative model, while annulling presented specific problems the model has.

TYPES OF ONLINE COMMUNICATION

People are using the Internet on a daily basis for a wide range of activities that could be considered as 'participation' - communicating, seeking information, content creation etc. (Livingstone, Bobera & Helspera, 2005) The content is no longer created and published by individuals, but instead is "continuously modified by all users in a participatory and collaborative fashion". (Kaplan & Haenlein, 2010, p. 61) Vast amount of literature already covers different characteristics of online communication for participation in politics and other spheres of public life. (Shah, Cho, Eveland & Kwak, 2005; Bakker & de Vreese, 2011; De Zúñiga, Puig-I-Abril & Rojas, 2009). Online communication tools that can be used for participation purposes (i.e. collecting information) have the characteristic to enable the user to transfer information to others – in private or in public setting. Also, this information must remain visible for limited or unlimited time, sufficient for others to see it and/or note it. These are synchronous online communication tools (instant messaging, chats, conferences etc.), asynchronous (e-mail, thread discussions, blogs, wikis etc.) or hybrid forms (collaborations etc.). They demand different kinds of commitment and, due to their characteristics, provide different forms of information. We will compare ways of receiving data from citizens through new online technologies (not demanding investment of time for travelling from one place to another to participate) with problems of participatory model.

Users' will to participate in online communication - People use online communication when other obligations allow them to and from the intimacy and comfort of their houses/workplaces, most of the time sharing and receiving information through each of the mentioned tools – posting comments, chatting, sharing documents, blogging etc. All of these tools are accessible, fast, inexpensive, de-territorialized, with reduced formality and increased freedom and ease of use (Bruszt, Vedres & Stark, 2005; De Zúñiga, Puig-I-Abril & Rojas, 2009) in contrast to public discussions organized in public spaces/buildings. People use social networks on daily bases and comment different things they wouldn't bother to find and comment elsewhere (even on the network) - it is easy and accessible. Since people are already using internet and searching through different data, they are more likely to see and/or join more discussions than they would if they were invited to participate in a civic hall, for example. McKenna and Bargh (2000) stress anonymity as an attractive online communication feature, choice about when to participate and control one has, in the form of taking time to think about on-going correspondence. Users have a choice on which subjects they will comment, which debates they wish to join, what they wish to learn, with whom they want to communicate. Different forms of communication tools enable them to choose how much they want to contribute, i.e. how much time they wish to invest, in relation to the information they want to transfer.

Majority strength and psychology of masses in online communication - The boundaries delineated by cultural constructs of race, gender, social position, authority, appearance etc. can be by-passed in online communication to create a clear interaction. (Reid, 1991) This way the system gives voice to each individual

interested, instead to those which are the loudest in the crowd, and each argument receives equal amount of attention (way of communicating where everyone have the same chance to speak / be heard). The chances of individuals to lead a great number of people from the mass to support their views and influence others are thus smaller. Different types of information exchange support this benefit. When citizens do not wish to state their opinion publicly, they have an option of sending personal messages in online communication – asking questions or sharing data through emails and instant messaging, in relative privacy. Kiesler, Siegel and McGuire (1984) have described a distinct feature of social anonymity of online communication in comparison to conventional forms of interaction. Since they are anonymous, users of online communication tools thus behave in a more uninhibited manner than they would in face-to-face communication - without social context cues to inhibit a free exchange between people. (Reid, 1991)

Self-development through online communication – People already use different forms of online tools for learning or receiving information. Chats and threaded discussions enable fast information dissemination and exchange. Conferences enable transfer of more complex knowledge in an attractive way, from conference organizer to public, with possibility of commenting. Blogs enable each citizen to elaborate on the matter of their interest and share opinions on it through comments and sharing links to other blogs. They are useful for disseminating latest information, creating environment open for conversation about different topics, more intensive information flow and learning. (Bransford, Brown & Cocking, 2000) Wikis can help gather and receive information on the subject from larger number of interested parties, gathering info in one place, and with reliability check from citizens themselves. (Smith, Mills & Myers, 2009) Educative element of online communication is most obvious in the case of “lurks” – people who join a community and do not post, but search for information and learn (Nonnecke, Andrews & Preece, 2006, p. 7).

AVOIDING UTOPIAN PRESUMPTIONS ABOUT ONLINE COMMUNICATION

Despite this overheated rhetoric, it is also necessary to observe the down-sides of online communication tools if they are to be used in planning, in order not to fall into another utopian model. The most observed problem with participation is people’s motivation to react, even from one’s home, and ways of motivating them. People comment on and read about the subjects which are of their direct interest (amusement, information). This can be viewed as advantage for planning, since only interested parties will react on the subject, but can be a draw-back, since less people means less information on the planning area and on made decisions. Unfortunately, the potential to create platforms with wide, active and loyal community is not always achieved. Many communities fail and a variety of communities suffer from a deficit of visible content contribution.

Many authors deal with this problem, using social science research and finding different modes of motivating people to interact. Social scientist point to different

and multiple factors influencing one's online contribution to a group such as: size of the group, group and its members' attractiveness, expectations of performance, the importance of contribution outcomes, incentives, and the probability for interacting again. (Karau & Williams, 1993; Oliver & Marwell, 1998) Ludford et al. suggest that community members "like receiving information about the unique perspective they bring to the group and participate more because of it" (2004, p.7). Scandalous or controversial topics are effective tools for stimulating participation (Guerin, 2003), which is an advantage for planning where most situations are controversial (concerning politics, economy, design etc.). This can be advantage, but many problems are attached to this kind of information sharing. According to Ludford et al. (2004, p.7) "flame wars" should be avoided, since they bring more "heat than light", but can encourage discussion when disagreement is permissible. 'Flaming', the expression of anger, insults and hatred, is a common phenomenon in all forms of computer- mediated communication, but social sanctions are present and operators have the ability to 'kill' users. (Reid, 1991) The role of operators is multiple and can be of outmost importance for motivating the community to participate, through their roles of conversation stimulator, conflict resolver, summarizer of debates, supporter, cleaner etc. (Davies & Chandler, 2011) Preece & Shneiderman (2009) have made their contribution to the subject of motivating users by gathering research on the subject how to motivate different types of users (readers, contributors, collaborators or leaders of online community) and what to do to move them from one level to another. Suggested solutions are numerous.

While the use of attractive, playful applications is most often successful, there are fewer stories about durable large-scale successes that deal with difficult issues such as crime reporting, disaster response (Preece & Shneiderman, 2009) and similar issues that use the same type of participation needed for planning. According to most authors, if civic-minded technology specialists devote sufficient attention to the problems of motivation, they can be reduced (with carefully choosing subjects, giving rewards, recognitions, engaging operators etc.). The opportunity to produce startling changes in online approach to planning participation means that "state and local agencies should begin their own pilot projects" (Preece & Shneiderman, 2009, p.26), but small steps are feasible and can be explored.

REFERENCES

- Bachrach, P. & Botwinick, A. 1992. Power and empowerment: a radical theory of participatory democracy. Philadelphia: Temple university press.
- Bakker, T. P. & de Vreese, C. H. 2011. Good News for the Future? Young People, Internet Use, and Political Participation. *Communication Research* 38: 451-470.
- Benhabib, S. 1996. "Toward a deliberative model of democratic legitimacy." In *Democracy and Difference: Con-testing the Boundaries of the Political* edited by Shaila Benhabib. Princeton: Princeton University Press.
- Bohman, J. 1996. *Public deliberation: pluralism, complexity, and democracy*. Cambridge: M.I.T. Press.

- Bransford, J. D., Brown, A., & Cocking, R. (2000). (Eds.), *How People Learn: Mind, Brain, Experience and School*, Expanded Edition. Washington, DC: National Academy Press.
- Bruszt, L., Vedres, B. & Stark, D. 2005. Shaping the Web of Civic Participation: Civil Society Websites in Eastern Europe. *Journal of Public Policy* 25, no. 1: 149-163.
- Cohen, J. 1997. Procedure and substance in deliberative democracy. In *Deliberative democracy: Essays on reason and politics* edited by James Bohman and William Rehg. Cambridge: M.I.T. Press.
- Davies, T. & Chandler, R. 2011. Online Deliberation Design: Choices, Criteria, and Evidence. In *Democracy in Motion: Evaluating the Practice and Impact of Deliberative Civic Engagement* edited by Tina Nabatchi, Michael Weiksner, John Gastil, and Matt Leighninger, Oxford University
- De Zúñiga, H. G., Puig-I-Abril, E. & Rojas, H. 2009. Weblogs, traditional sources online and political participation: an assessment of how internet is changing political environment. *New Media Society* 11: 553-574.
- Dye, T. & Zeigler, H. 2008. *The irony of democracy: an uncommon introduction to American politics*. Belmont: Wadsworth Publishing Company.
- Fischer, F. & Forester, J. (Eds.). 1993. *The argumentative turn in policy analysis and planning*. Durham, N.C.: Duke University Press
- Guerin, B. 2003. Language use as social strategy: A review and an analytic framework for the social sciences. *Review of General Psychology* 7, no. 3: 251-298.
- Guthmann, A. & Thompson, D. 1996. *Democracy and disageement*. Harvard College: President and Fellows.
- Guthmann, A. 1993. *Democracy*. In *A companion to contemporary political philosophy* edited by Robert Goodin & Philip Pettit. Oxford: Blackwell.
- Hauptman, E. 2001. Can less be more? Leftist deliberative democrats' critique of participatory democracy. *Polity* 33, no. 3: 397-421.
- Healey, P. 1992. Planning through debate: a communicative turn in planning theory. *Town planning review* 63, no. 2: 143-162.
- Innes, J. E. 1995. Planning theory's emerging paradigm: communicative action and interactive practice. *JPER* 14: 183-188.
- Kaplan, A. M. & Haenlein, M. 2010. Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons* 53: 59-68.
- Karau, S.J., & Williams, K.D. 1993. Social loafing: A meta-analytic review and theoretical integration. *Journal of Personality & Social Psychology* 65, no. 4: 681-706.
- Kiesler, S., Siegel, J. & Mcguire, T. W. 1984. Social Psychological Aspects of Computer-mediated Communication. *American Psychologist* 39, no. 10
- Livingstone, S., Bobera, M. & Helspera, E. J. 2005. Active participation or just more information? Young people's take-up of opportunities to act and interact on the Internet. *Information, Communication & Society* 8, no. 3
- Ludford, P. J., Cosley, D., Frankowski, D. & Terveen, L. 2004. Think Different: Increasing Online Community Participation Using Uniqueness and Group Dissimilarity. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, ACM New York, NY, USA pp. 631-638
- Mansbridge, J. 1999. *Altruistic truth*. In *Democracy and trust* edited by Mark Warren. Cambridge: University Press.

- McKenna, K. Y., & Bargh, J. A. 2000. Plan 9 from cyberspace: the implications of the Internet for personality and social psychology. *Personality and Social Psychology Review* 4: 57-75.
- Nonnecke, B., Andrews, D. & Preece, J. 2006. Non-public and public online community participation: Needs, attitudes and behavior. *Electron Commerce Res* 6: 7-20.
- Oliver, P.E., & Marwell, G. 1998. The Paradox of Group Size in Collective Action: A Theory of the Critical Mass. II. *American Sociological Review* 53, no. 1: 1-8.
- Preece, J. and Shneiderman, B. 2009. The Reader-to-Leader Framework: Motivating Technology-Mediated Social Participation. *AIS Transactions on Human-Computer Interaction* 1, no. 1: 13-32
- Reid, E. 1991. Electropolis: Communication and Community on Internet Relay Chat. University of Melbourne, Department of History <http://www.irchelp.org/irchelp/communication-research/academic/academic-reid-e-electropolis-1991.html> (02.02.2014)
- Shah, D. V., Cho, J., Eveland, W. P. & Kwak, N. 2005. Information and Expression in a Digital Age: Modeling Internet Effects on Civic Participation. *Communication Research* 32: 531-565.
- Smith, E. J., Mills, J. E., & Myers, B. 2009. Using wikis and blogs for assessment in first-year engineering. *Campus-Wide Information Systems* 26, no. 5: 424-432.
- Warren, M. 1992. Democratic theory and self-transformation. *The American political science review* 86, no. 1: 8-23.