

THE EFFECT OF CONTEXTUAL LEARNING IN CIVIC EDUCATION ON STUDENTS' CIVIC SKILLS

KOKOM KOMALASARI

ABSTRACT: *The development of Civic Education cannot be isolated from globalization tendency that influences the students' life. However, the recent fact in Indonesia is that learning is still dominated by conventional system. Thus, the implementation of learning oriented to "contextualized multiple intelligences" concept is still far away from its wish. This study aimed to describe the effect of contextual learning in Civic Education on students' civic skills. The process of study used quantitative approach with survey method. The population of study was Junior High School students in West Java, Indonesia, taught by Civic Education teachers who had followed Competence-Based Integrated Training. The total sample was 1,004 students based on cluster, proportional, and systematic random sampling. The result of study showed that contextual learning in West Java Junior High Schools belonged to average category. The civic skills of Junior High School students in West Java were belonged to high category. There was significant effect of contextual learning on students' civic skills, which was shown with correlation by 0.48 and contribution by 23%. Therefore, teachers should apply contextual learning, the government should develop effective training system to improve the teachers' competence in contextual learning and teacher education institution should develop innovation of learning model involving school.*

KEY WORDS: *Contextual learning, civic education, students' civic skills, thinking skill and participative skill, and good and democratic citizens.*

INTRODUCTION

The development of Civic Education cannot be isolated from globalization tendency that influences the students' life. Globalization requires that Civic Education develops civic skills, including multidimensional thinking and participative skills. Civic Education learning is oriented to "contextualized multiple intelligences" concept that opens mind about the need of more creative, active-participative, and meaningful and pleasant learning management. Therefore, contextual teaching and learning should be applied in Civic Education learning.

The recent fact in Indonesia is that learning is still dominated by conventional system. Thus, the implementation of learning oriented to "contextualized multiple intelligences" concept is still far away from its wish. It is proved by serious problem that should be faced in which most of students cannot relate what they have learnt

Dr. Hj. Kokom Komalasari is a Lecturer at the Department of Civic Education, Faculty of Social Studies Education UPI (Indonesia University of Education), Jalan Dr. Setiabudhi No.229 Bandung 40154, West Java, Indonesia. She can be reached at: komsari36@yahoo.co.id

with the way to apply such knowledge in their current and future lives. It means that learning is not meaningful for students in solving their civic problems occurred in their lives.

Learning is not able to develop students' civic skills. It occurs because Civic Education learning does not relate the material with students' life reality. It is also not contextual and gives more competence to memorize instead of to think critically, analytically, and participatively. Moreover, it caused the students' apathy attitude and the students underestimate it and think that it is not interesting.

Therefore, contextual teaching and learning approach should be developed as one of alternatives. This approach is assumed to be effective because it considers that learning process will absolutely occur if the students can find meaningful relationship between abstract thinking and practical application in real world context. In such learning experience, fact, concept, principle, and procedure lesson material are internalized through discovery, reinforcement, interrelationship, and integrity processes (Forgarty, 1991:1; and Mathews & Cleary, 1993:2).

Contextual learning is a coordination of lesson material (content) and intellectual skill that the students should have in situation and condition appropriate with the students' cognitive psychology and the interest of learners' environment (Blanchard, 2003:2). Furthermore, E.B. Johnson (2002:25) emphasizes that contextual teaching and learning (CTL) helps the students to find the meaning in academic material that they learn by relating academic subjects with the context in their daily lives which are personal, social, and cultural contexts.

The contextual learning approach is assumed to be able to improve the students' competence, so that Competence-Based Curriculum of Junior High School strictly emphasizes contextual learning in its learning approach. Thus, *Pelatihan Terintegrasi Berbasis Kompetensi* (PTBK) or Competence-Based Integrated Training is containing material about contextual learning for Junior High School teachers has been held. This training is organized by *Direktorat Pendidikan Lanjutan Pertama, Direktorat Jenderal Pendidikan Dasar dan Menengah, Departemen Pendidikan Nasional, Republik Indonesia* (Directorate of Secondary Education, Directorate-General for Primary and Secondary Education, Ministry of National Education, the Republic of Indonesia) in 2004-2005. The obligation to implement this contextual learning is continued in Curriculum 2006, which is the development of Competence-Based Curriculum.

The fact urges the writer to conduct research focusing on the effect of contextual learning in Civic Education on civic skills of Junior High School students in West Java taught by Civic Education teachers who have followed PTBK (*Pelatihan Terintegrasi Berbasis Kompetensi* or Competence-Based Integrated Training). The problems that can be identified are: (1) How is the condition of contextual-based Civic Education learning and civic skills of Junior High School students in West Java?; and (2) Do the factors of contextual-based Civic Education learning have effect on the improvement of Junior High School students' skill in West Java?

METHOD

This study used quantitative approach. The method used was survey, because it had characteristics such as stated by R. Singleton *et al.* (1998:239) as follows: (1) a number of respondents were selected by using probability sampling procedure to represent population; (2) systematic questionnaire was used to ask about the respondents and write down their answers; and (3) such answers were codified numerically and analyzed using statistic technique.

The population of this study was the ninth grade students of State Junior High School in West Java, Indonesia taught by Civic Education teachers who had followed Competence-Based Integrated Training in 2004, consisting of 93 State Junior High School disseminated in 26 regencies/cities in West Java. The sample was determined using cluster, proportional, and systematic random sampling techniques, so that it gained 1,004 sample of Junior High School students in West Java, Indonesia.

The instrument of study used to measure the variable of contextual learning was SSHA (Survey of Study Habits and Attitudes) scale questionnaire developed by W.F. Brown and W.H. Holtzman (1967) that had been adjusted with Indonesia local culture. Meanwhile, to measure the variable of civic skills, it accommodated "Civics Assessment Database" from United States NCLC (National Center for Learning and Citizenship) in 2006 adjusted with Indonesia context and Curriculum 2006 of Civic Education subject. Data analysis used correlation and regression analyses.

RESULT

On the Descriptive Study. The result of descriptive analysis and tendency testing toward the students' perception about the condition of contextual learning and students' civic skills described interesting phenomenon. The result of data processing about the tendency of contextual learning condition in Civic Education could be seen from the table below:

Table 1:
The Perception of Study Subject toward the Condition of Contextual Learning in Civic Education in West Java Junior High Schools

No	Contextual Learning in Civic Education	Frequency (N)	Percentage (%)
1.	Low	11	1.11
2.	Avarage	867	87.22
3	High	116	11.67
	Total	994	100

(Source: Komalasari, 2008)

The above table showed that most of contextual learning condition in Civic Education in West Java Junior High School was belonged to average category with the percentage 87.22%, moreover 11.67% was included in high category and only 1.11% was included in low category. Therefore, it could be concluded that most of Junior High Schools in West Java were quite good in applying contextual approach in Civic Education learning.

Table 2:
 The Condition of Junior High School Students' Civic Skills in West Java

No	Civic Competence	Frequency (N)	Percentage (%)
1.	Low	40	4.03
2.	Avarage	185	18.61
3.	High	769	77.36
Total		994	100

(Source: Komalasari, 2008)

The table above showed that Junior High School students in West Java had higher civic skills with percentage 77.36%, while the rest of 18.61% was included in average category, and 4.03% was included in low category. Therefore, it could be concluded that most of Junior High School students in West Java had higher civic competence.

On the Hypothetical Testing. Correlation between X and Y (civic skills) variables had coefficient value by 0.48. From the result of correlation coefficient testing, by considering significance value compared with reliability level $\alpha = 0.05$, it could be concluded that α value of X and Y variables was $0.00 < 0.05$. Thus, it could be interpreted that there was significant, positive correlation between X (contextual learning) variable and Y (civic skills) variable.

Further analysis should be conducted to study the feasibility of such regression model through linearity correlation testing of independent variable (X) and each dependent variable (Y). Based on ANOVA (Analysis of Variance) calculation, it gained α value for independent variable (X) toward each Y variable by $0.00 < 0.05$, which meant rejecting H_0 and accepting H_a . Therefore, there was linear correlation between X variable (contextual learning) and each Y variable (civic skills), so that it could be concluded that such regression model was right and reasonable to be used.

Contribution analysis of contextual learning in Civic Education toward Y variable (civic skills) could be studied by considering proportion significance and the number of Y variation explained by regression model. Then, to measure the contribution significance of X variable toward Y variable variation could be studied by considering R Square value by 0.23. Based on this data, it could be concluded that the ability of X independent variable to explain variation of Y dependent variable was by 23%, the rest was determined by other factors that were not explained in this regression model.

DISCUSSION

Contextual learning is a teaching and learning concept that helps teachers to relate the material taught and students' real world situation, and encourages the students to make relationship between knowlegde they have and its application in their lives as the members of society and citizen (Berns & Erikcson, 2001:4; and Blanchard, 2003:2). Thus, contextual learning enables students to relate the material content and daily life context to find out the meaning (Johnson, 2002:24).

According to A. Blanchard (2003:5), the characteristics of contextual learning include: (1) relies on spatial memory; (2) typically integrated multiple subjects; (3) value of information is based on individual need; (4) relates information with prior knowledge; and (5) authentic assessment through practical application or solving of realistic problem. Further, R.G. Berns and P.M. Erickson (2001:5-8) stated that characteristics of contextual learning are: (1) interdisciplinary learning; (2) problem-based learning; and (3) external contexts for learning.

In detail, E.B. Johnson (2002:24) identifies eight components such as: (1) making meaningful connections; (2) doing significant work; (3) self-regulated learning; (4) collaborating; (5) critical and creative thinking; (6) nurturing the individual; (7) reaching high standards; and (8) using authentic assessment. Besides, J. Sounders (1999) focuses on REACT (*Relating*: Learning in life experience context; *Experiencing*: learning in searching and discovery context; *Applying*: learning the knowledge is introduced in its usage context; *Cooperating*: learning through interpersonal communication and mutual sharing; and *Transferring*: learning of knowledge usage in a new context or situation). In this study, contextual learning involves six characteristics such as: (1) relating, (2) experiencing, (3) applying, (4) cooperating, (5) self-regulating, and (6) authentic assessment.

Contextual learning has significant and positive effect on civic skills. Hence, M.S. Branson (1999:9) explains that civic skills are skills developed from civic knowledge, in order that the acquired knowledge can be a meaningful thing, because it can be used in solving nation and state life problems. Civic skills include *intellectual skills* and *participation skills*. The most important *intellectual skills* to create knowledgeable, effective, and responsible citizen are critical thinking skill. The National Standards for Civics and Government dan the Civics Framework for 1988, National Assessment of Educational Progress (NAEP) states that critical thinking skill includes the skills of identifying, describing, analyzing, evaluating, determining, and defending opinion related to public affairs (cited by Komalasari, 2008). Meanwhile, *participation skills* include the skills of interacting, observing, and influencing.

This civic skills dimension is developed to give necessary knowledge and skill to participate effectively in society, experience of participation that is designed to reinforce the awareness of having ability and to have superior achievement of students, and to develop definition of the importance of citizenship active participation role. In order to be able to participate actively, it needs knowledge

of fundamental concept, history, issues, and actual event; and fact related to the substance and ability to apply such knowledge contextually, and the tendency to act appropriate with the character of citizen (Quigley, Buchanan & Bahmueller, (1991:39).

The significance of correlation between contextual learning in Civic Education and civic competence can be analyzed at least from these two matters:

First, contextual learning in Civic Education is natural for the students. It means that it asks the students to act in natural way for human, which is to act appropriate with the way brain or mind functions in thinking. Contextual learning stimulates brain to construct knowledge patterns through interrelationship with students' life reality context. It is agreed with constructivism concept that our knowledge is our own construction (Glaserfeld, 1989).

Furthermore, E. Glaserfeld (1989) emphasizes that knowledge is not an imitation of reality. Knowledge is a description of existing reality world. Knowledge is always an effect of reality cognitive construction through one's activity. Someone constructs knowledge scheme, category, concept, and structure needed for knowledge. Thus, knowledge is not about the world which is out of the observer's reach, but it is human creation that is constructed from his or her experience or world. Knowledge is not a collection of fact from a fact being learnt, but it is one's cognitive construction toward object, experience or environment. Knowledge cannot be transferred easily from one's brain (teacher) to other's brain (students). The student himself should interpret what has been taught by adjusting with their own experiences. Finally, C.R. Semiawan, A.S. Munandar and U. Munandar (2002) put also forward that learning is to construct the knowledge itself, after being understood and assimilated, and a deed from within oneself.

In contextual learning, thinking and participative skills are constructed within an individual through continual interaction process with object, phenomenon, experience, and students' environment. In practice, contextual learning in Civic Education gives contribution on cognitive, constructivism, and social revolution theories, especially J. Piaget theory (1951 and 1967) about *development stages; meaningful learning* by Ausubel (cited by Glaserfeld, 1989); *free discovery learning* by J. Bruner (1977); and *genetic law of development and zone of proximal development* by L.S. Vygotsky (1978). The interrelationship of contextual learning and those theories can be analyzed as following here:

Contextual learning in Civic Education gives contribution on J. Piaget (1951 and 1967) theory about *cognitive structure development* that learning in Civic Education is adjusted with students' cognitive development level. Children between 12–15 years old (Junior High School age) have reached formal operation level. In this age, mentally they have been able to think logically about various abstract concepts. In other words, formal operation thinking is more hypothetical, abstract, systematic, and scientific in solving problems. However, this age is the initial level of formal operation level, because this formal operation level is in the range of 12-18 years old, so that in developing abstract thinking skill, it should be related with previous level

which is concrete operation. Thus, the interrelationship with object, phenomenon, and concrete experience in developing abstract thinking should be done.

It implies on learning process of Junior High School students that is in formal operation thinking period which is the need to prepare Civic Education program facilitating students' thinking skill development. Some efforts that can be done are the use of Civic Education learning methods that encourage the students to ask actively, put forward their ideas, test a material, conduct dialog, and discussion or opinion about citizenship problems. It can be accommodated in contextual learning through the implementation of problem-based learning and project-based learning.

Contextual learning Civic Education implementing interrelationship concept among concepts in students' life reality gives contribution on *meaningful learning* theory by Ausubel (cited by Glasersfeld, 1989). Learning is a meaningful assimilation for students. The material learnt is assimilated and correlated with the students' prior knowledge in cognitive structure form. Cognitive structure is organizational structure existing in one's memory that integrates separated knowledge elements into conceptual unit. Therefore, in contextual learning, *advance organizers* concept by Ausubel is developed in designing learning.

The used of *advance organizers*, as content framework, can improve the students' competence in searching new information, because it is a framework in abstraction form or fundamental concept resume about what have been learn, and its correlation with the existing material in students' cognitive structure. *Advance organizers* can give three advantages such as: (1) can provide a conceptual framework for learning material that will be learns by students; (2) can function as the bridge to relate what have been learn by students nowadays and what will be learn by them in the future; and (3) teacher can help students to understand a thing easier.

Contextual learning in Civic Education applying application concept gives contribution on *free discovery learning* by J. Bruner (1977) that learning process will run well and creatively if the teachers give opportunity to the students to find a concept, theory, and rule; or understanding through the examples they see in their daily lives. In other words, the students are guided to understand the most specific thing (deductive) into the most complex thing (inductive), to understand that honesty concept is not the earlier concept taught, but the concrete examples of the honesty in daily life.

Contextual learning in Civic Education that apply collaborating and self-regulating concepts gives contribution on social-constructivism theory related to *genetic law of development* theory by L.S. Vygotsky (1978) emphasizing that every one's competence will grow and develop through two levels which are: (1) social level in which someone create his or her social environment or can be categorized as interpsychological or intermental; and (2) psychological within related individual or can be categorized as intrapsychological or intramental.

This theoretical assumption puts intermental or social environment as primary and constitutive factor of one's knowledge construction and cognitive development. Initially, the students participate in social activity or particular citizenship activity

without understanding its meaning. Interpreting or constructing new knowledge begins to occur through internalization process. However, internalization stated by L.S. Vygotsky (1978) is transformative in nature, which is able to cause change and development that is not only a transfer.

Contextual learning also gives contribution on L.S. Vygotsky's (1978) conception about the *zone of proximal development*. The development of students' skill is differentiated into two levels: (1) actual development, and (2) potential development. "Actual development level" can be seen from the students' skill to complete assignments or solve various problems independently. It is called *intramental competence*. Meanwhile, "potential development level" can be seen from the students' skill to complete assignments and solve problems under teachers' guide or when collaborating with their peer who are more competent. It is called as *intermental competence*. The range of both, which are actual development and potential development levels, is called *zone of proximal development*. This zone is interpreted as immature functions or competences that are still in maturing process. These functions or competences will be mature through their interaction with adult or collaboration with their peer who are more competent. It is done in contextual learning through *cooperative learning*.

Some key concepts that should be taken from L.S. Vygotsky (1978) about the *zone of proximal development* related to contextual learning are that development and learning are interdependent or interrelated. So, development of one's competence is context-dependent, and cannot be separated from social context; and the fundamental form in learning is participation in social activity. Therefore, before *intramental competence* is constructed, the students should be helped in their learning process. Adult or peer who is more competent should help with various ways such as giving examples, feedback, and so forth in order to improve their competence.

Therefore, in contextual learning, students learn well because what have been learnt related with what have been known and the activity or events occur in their surroundings. It means that contextual learning enables the students to relate material content and daily life context to find out the meaning (Johnson, 2002:24). In Civic Education material containing more abstract concepts, then it is in line with D. Hull and J.C. Sounders (1996) that contextual learning helps the students to find out meaningful relationship between abstract ideas and practical application in real world context.

The students internalize concept and knowledge through discovery, reinforcement, and interrelationship. Similarly, R.G. Berns and P.M. Erickson (2001) and A. Blanchard (2003) emphasize that contextual learning helps the teachers to relate the material taught and students' real world situation, and encourages the students to make relationship between their acquired knowledge and its application in their lives as the members of family, citizen, and worker. It is agreed with *learning by doing* concept by John Dewey (cited by Komalasari, 2008).

Second, contextual learning in Civic Education supports the establishment of "democratic learning". It means that Civic Education is a means of democratic

learning in improving the students to be intelligent, responsible, and participative democratic citizens. Democratic principles are included not only in content but also applied in the process of civic education learning.

Contextual learning in Civic Education, as democratic learning, adopts some models summarized by R.G. Berns and P.M. Erickson (2001) as following here: (1) *Problem-based learning*, an approach involving student in solving problems by integrating various concepts and skills from various disciplines. This approach includes collecting and integrating information and presenting discovery; (2) *Cooperative learning*, an approach organizing learning by using small learning group in which students work together to reach the learning goals; (3) *Project-based learning*, an approach focusing on main concept and principle of a discipline, involving the student in solving problems and other meaningful tasks, encouraging the students to work independently to construct learning, and, finally, creating real works; and (4) *Service learning*, an approach providing a practical application of new skill and knowledge development for the needs in society through project and activities.

The students are trained their social competence and independence as democratic citizens through *cooperative learning* and *self-regulated learning*. Through *cooperative learning*, the students develop competence as citizens who are able to appreciate difference, cooperate, and have commitment to reach collective goals. Through *self-regulated learning*, the students develop competence as independent citizens who are confident of their own competence, and have freedom to create and work with their own competence.

The students' competence is trained as critical and creative democratic citizens through experience-based learning, including *problem-based learning*, *inquiry-based learning*, and *project-based learning*. Through learning various problems, the students are asked to think critically about the citizenship problems that are necessary to solve, and to think creatively to find out the alternatives of problem solving, and to make decision to select alternative of problem solving wisely.

Through *inquiry-based learning*, the students are trained to think systematically and scientifically in which in discussing civic issues, the students should study its truth empirically so that they can be responsible for the result. Through *project-based learning*, the students are trained to think comprehensively about a civic issue. The students are trained to do direct research activity in field, make the report of research finding, and present its finding.

The students' competence is developed as participative democratic citizens through citizenship-based *service learning*, extracurricular, and habituation program at school. Through citizenship-based *service learning*, the students are trained to apply citizenship skill and knowledge to help society. The activity of service learning can be coordinated by extracurricular at school. This extracurricular activity is a means of socio-pedagogy to acquire *hands-on experience*. Extracurricular activity gives significant contribution to balance between theoretical mastery and behavior habituation practice and skill in democratic living and law-awareness.

Through extracurricular activity, the students are trained to join organization, conduct government in restricted scope, and simulate the process of democracy. Besides that, the students' self awareness is developed through the application of authentic assessment. Through authentic assessment, the students are trained to have awareness and respect of their own competence, willingness to accept constructive critique, and bravery to give polite critique.

CONCLUSION AND RECOMMENDATION

Based on the explanation in preverious section, this study takes the conclusions as follows:

First, contextual learning in Civic Education has significant effect on civic skills of Junior High School students in West Java, Indonesia.

Second, contextual learning develops students' thinking and participative skills through cooperative learning, self-regulated learning, service learning, problem-based learning, inquiry-based learning, project-based learning, and value learning strategies.

Third, contextual learning has significant effect on civic skills because it is natural for students and develops meaningful democratic learning to develop the students' critical thinking and participative skills in their daily lives.

Meanwhile, recommendations of the study are as follows:

First, contextual learning in Civic Education should be developed by teachers at schools.

Second, Ministry of National Education in Indonesia should cooperate with Teacher Education Institution and schools to develop contextual teaching and learning training and education system for teachers, followed by practice in classroom that is monitored and evaluated, and research on the implementation and effect of contextual teaching and learning for the improvement of learning quality.

Third, Teacher Education Institution should develop research activity and development of learning model innovation in order to improve the quality of learning. Besides that, it should involve school and teacher in lecturing activity, through field-work practice program, field observation, classroom-action research, guest lecturer in teaching and learning process of lecturing activity, and so forth.

REFERENCES

- Berns, R.G. & P.M. Erickson. (2001). "Contextual Teaching and Learning: The Highlight Zone, Research @ Work No.5" in <http://www.nccte.org/publications/infosynthesis/highlightzone/highlight05/index.asp> [accessed in Bandung, Indonesia: 17 October 2011].

- Blanchard, A. (2003). "Contextual Teaching and Learning" in www.horizonshelp.org/contextual/contextual.htm-8k [accessed in Bandung, Indonesia: 17 October 2011].
- Branson, M.S. (1999). *Belajar Civic Education dari Amerika*. Yogyakarta: Cooperation between LKIS and the Asia Foundation.
- Brown, W.F. & W.H. Holtzman. (1967). *Survey of Study Habits and Attitudes*. New York: Psychological Corporation.
- Bruner, J. (1977). *The Process of Education*. Cambridge: Harvard University Press.
- Forgarty, R. (1991). *How to Integrate the Curricula*. Illinois: Skylight.
- Glaserfeld, E. (1989). *Cognition, Construction of Knowledge, and Teaching*. Washington D.C.: National Science Foundation.
- Hull, D. & J.C. Sounders. (1996). "The Coming Challenge: Are Community Colleges Ready for the New Wave of Contextual Learners?" in *Community College Journal*, 67(2), October, pp.15-17.
- Johnson, E.B. (2002). *Contextual Teaching and Learning: What it is and Why it is Here to Stay?* California, USA: Corwin Press, Inc.
- Komalasari, K. (2008). "Pengaruh Pembelajaran Kontekstual terhadap Kompetensi Kewarganegaraan Siswa SMP (Sekolah Menengah Pertama)". *Unpublished Dr. Dissertation*. Bandung: Post-Graduate Program UPI (Indonesia University of Education).
- Mathews, B. & P. Cleary. (1993). *Integrated Curriculum in Use: Practical Ideas for Planning and Assessment*. Melbourne: Ashton Scholastic Pty Limited.
- NCLC [National Center for Learning and Citizenship]. (2007). "Resources to Assess Student Civic Competencies and School Climate" in <http://www.nclc.org> [accessed in Bandung, Indonesia: 30 March 2011].
- Piaget, J. (1951). *The Child's Conception of the World*. Savage, Maryland: Littlefield Publishers.
- Piaget, J. (1967). *Six Psychological Studies*. New York: Vintage Books.
- Quigley, C.N., J.H. Buchanan & C.F. Bahmueller. (1991). *Civitas: A Framework for Civic Education*. Calabasas: CCE [Center of Civic Education].
- Semiawan, C.R., A.S. Munandar & U. Munandar. (2002). *Memupuk Bakat dan Kreativitas Siswa Sekolah Menengah: Petunjuk bagi Guru dan Orang Tua*. Jakarta: PT Gramedia.
- Singleton, R. et al. (1998). *Approaches to Social Research*. New York: Oxford University Press.
- Sounders, J. (1999). "Contextually Based Learning: Fad or Proven Practice?" in <http://www.uga.edu/fb070999.htm> [accessed in Bandung, Indonesia: 16 June 2011].
- Vygotsky, L.S. (1978). *Mind in Society*. Cambridge: Harvard University Press.



Through extracurricular activity, the students are trained to join organization, conduct government in restricted scope, and simulate the process of democracy.