The Effect of *We the People…Project Citizen* on the Civic Skills and Dispositions of Taiwanese Senior High School Students

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*We the People…Project Citizen* is a civic education program for secondary school students that promotes informed and responsible participation in local government. The purposes of this study were to evaluate the effects of *Project Citizen* upon the civic skills and dispositions of Taiwanese senior high school students, to explore factors associated with its effectiveness, and to document teachers' perceptions of *Project Citizen*.

This research employed a non-random, pretest-posttest comparison group, quasi-experimental design. Twelve Taiwanese senior high school teachers each with two classes of students, one experimental and one comparison, participated in this study. During the Fall semester of 2001 (September 2001 to January 2002), the experimental students received instruction in *Project Citizen* as an adjunct to the traditional instruction of *Civics* or *Three Principles of the People*; the comparison students received traditional, discipline-based instruction that focused on the hierarchical model of knowledge acquisition.

Hierarchical ANCOVA of the posttest, using pretest as the covariate, indicated that students participating in *Project Citizen* significantly outperformed students in the comparison group in civic skills, political interest and commitment to rights and responsibilities of citizenship. Factors significantly associated with the effect of *Project Citizen* on the civic skills and dispositions of Taiwanese high school students included classroom climate and exposure to news of various resources.

Qualitative analyses of the teacher interviews revealed that all participating teachers responded positively toward *Project Citizen* and showed interest in implementing it again in their classes. The results also suggested, however, that time constraints, students' abilities, and the pressure from the Joint College Entrance Examination, among other factors, pose significant challenges to implementing *Project Citizen* in the Taiwanese context. Valuable suggestions to address these challenges, such as correlating *Project Citizen* with current curriculum frameworks and simplifying the procedures and materials, were provided by the participating teachers.

**Key Words:** *We the People…Project Citizen*, Civic Skills, Civic Dispositions, Hierarchical Analysis of Covariance (Hierarchical ANCOVA)

Constitutional democracy requires informed, effective, and responsible citizens for its maintenance and improvement. If the polity is to survive and thrive, citizens must have adequate knowledge of its principles and institutions, skills in applying this knowledge to civic life, and dispositions that incline them to protect individual rights and to promote the common good of the society (NAEP, 1996; Patrick, 1999a, 1999b; Vontz, Metcalf, & Patrick, 2000). Therefore, no one would question that to promote informed and responsible participation in civic life among a citizenry that is committed to the values and principles of constitutional democracy is the over-riding goal of civic education.

As Taiwan is in transition from a “hard authoritarianism” to a “soft authoritarianism”
(Wincker, 1984, p. 482) and moving toward a constitutional democracy, the efficacy of citizenship education is even more crucial. After the termination of martial law in 1987, a series of political reforms have taken place in Taiwan, including revision of the Constitution, re-election of parliament members, and direct presidential elections. These political changes indicate that cultivating the knowledge, dispositions and skills that are indispensable for enhancing the development of democracy, guaranteeing the rule of law, and fostering the participant perspective is the main task of current civic education (National Taiwan Normal University Department of Civic Education, 1997).

Civic education in Taiwan, however, faces formidable barriers, most notably a gap between pedagogical theory and classroom practice, and a conventional instructional emphasis upon the acquisition of factual knowledge concerning the framework of the political system, rather than stressing actual civic participation. These obstacles, among others, impede the civic development of the Taiwanese people and inhibit the flourishing of Taiwan’s newly-emerging constitutional democracy.

Statement of the Problem

Research has shown agreement among practitioners and specialists that civics-related courses should be participatory, interactive, related to life in the school and community, conducted in a non-authoritarian environment, cognizant of social diversity, and co-constructed with parents and the community (Deng, Wen, Chang, & Doong, 1997; Doong, 2001; Liou, 2000; Torney-Purta, Schwille, & Amadeo, 1999). Therefore, encouraging students to become actively participating citizens is a central goal of citizenship education (Langton, 1988; National Council for the Social Studies, 1981; 1994). If the goal of civic education is to cultivate informed, effective, and responsible participatory citizens who are able and willing to protect individual rights and to promote the common good of the society, the curriculum and instruction of civic education in Taiwan needs to be altered to better reflect these characteristics.

As a civic educator, I am concerned about the civic education of Taiwanese students and the improvement of Taiwan’s civic education. In the summer of 2000, I was a research intern in the Social Studies Development Center of Indiana University and helped the Center analyze a quasi-experimental study of Project Citizen and the Civic Development of Adolescent Students in Indiana, Latvia, and Lithuania. I was impressed by its effectiveness in promoting adolescent students’ civic development.

Examination of the rationale and content of Project Citizen suggests that Project Citizen can be used as a curriculum supplement to remedy some of the weaknesses of Taiwan’s civic education.

Although previous research has shown that Project Citizen positively impacts the civic development of adolescent students (Liou, 2002; Soule, 2000; Tolo, 1998; Vontz, Metcalf, & Patrick, 2000), these studies should be interpreted with caution because of flaws in the research design (e.g. Seoul, 2000; Tolo, 1998), poor measurement instruments (e.g. Vontz, et al., 2000), and limited special samples (e.g. Liou, 2002). In order to evaluate the effects of Project Citizen upon the civic development of Taiwanese high school students, a sound research design that employs valid and reliable instrumentation is necessary.

Additionally, to achieve the maximum effect of Project Citizen, further research into the factors influencing its implementation is imperative.
Teachers’ perceptions and opinions of how to improve Project Citizen are helpful for adapting Project Citizen to Taiwan’s educational environment and culture. Every country has its specific educational tradition and culture. What works in one cultural context cannot be simply adopted in another setting with differing traditions, values, and meanings (Hahn, 1998). Project Citizen is a product of the United States. Although it has been implemented in various countries, without culturally-sensitive revisions it may not be suitable for the Taiwanese context. Therefore, how to successfully adopt Project Citizen for use in Taiwan is an important object of research.

Finally, recent research on the civic development of Taiwanese adolescents was mainly based on correlational studies or inappropriate analysis of a few small-scale quasi-experimental studies. As was stressed by Fraenkel and Wallen (2000), correlational studies do not, in and of themselves, establish cause-and-effect relationship; no cause-and-effect relationship can be inferred from correlational studies alone. Quasi-experiments, or true experiments, in contrast, are the best way to establish cause-and-effect relationship between variables; the causal inference, however, results only from the appropriate analysis of well-designed experiments or quasi-experiments. Although a few quasi-experimental studies have been conducted in Taiwan to investigate specific civics instruction methods (value-clarification, issues-centered approach, and cooperative learning) on the civic development of Taiwanese adolescents, these were small-scale studies, with sample sizes ranging from 154 to 163 students (Chang, Wu, & Liou, 1999; Chen, 1995; Liao, Liu, & Doong, 1998). Furthermore, the findings of these studies were based on inappropriate statistical analysis of the data (e.g., using individual students as the unit of analysis, but not taking account the fact that individual students are nested in classes). Therefore, the accuracy of these studies’ findings must be judged as questionable.

Purpose of the Study

The purposes of this study were to evaluate the effects of Project Citizen upon the civic skills and dispositions of Taiwanese high school students using a statistically appropriate analytical model, to explore factors associated with its effectiveness, and to document teachers’ perceptions of Project Citizen. Specifically, the objectives were:

1. to assess the effect of Project Citizen on Taiwanese senior high school students’ attainment of civic skills,
2. to assess the effect of Project Citizen on Taiwanese senior high school students’ attainment of civic dispositions,
3. to identify personal-related, family-related, school-related, and society-related factors associated with the effect of Project Citizen on the civic skills of Taiwanese senior high school students,
4. to identify personal-related, family-related, school-related, and society-related factors associated with the effect of Project Citizen on the civic dispositions of Taiwanese senior high school students, and
5. to document teachers’ perceptions of Project Citizen.

Definition of Terms

Project Citizen is an issues-centered civic education program developed by the Center for Civic Education (CCE). The program is designed to encourage civic development among adolescent
students through intensive study of a school or a community issue. In this study, Project Citizen was taught in 12 classes of Taiwan’s senior high school students.

**Civic Skills** are those intellectual and participatory capacities that enable active involvement in civic life (Vontz, et al., 2000). Civic skills are operationally defined as the mean score of the 11 items of 6-point Likert-type Adolescent Student Civic Skills Scale (ASCSS). Higher scores indicate more civic skills. Following are two examples of the ASCSS.

1. I am skilled at using facts to analyze other people’s positions on problem.
2. I am skilled at defending my positions on important issues of public policy.

**Civic Dispositions** are those traits of public and private character that contribute to both the political efficacy of the individual and the common good of society (Vontz, et al., 2000). Civic dispositions are operationalized by summing the mean scores derived from the following four subscales of Adolescent Student Civic Dispositions Scale (ASCDS): Political Interest, Propensity to Participate in Future Political Life, Commitment to Rights and Responsibilities of Citizenship, and Sense of Political Efficacy. Higher scores imply more positive civic dispositions.

**Political Interest**, the degree to which one monitors and is attentive to politics and the government, is important to maintaining a democratic society and is requisite to stimulating political participation (Vontz, et al., 2000). Political Interest is operationally defined as the mean score on a 9-item 6-point Likert-type subscale of the ASCDS. Higher scores indicate higher interest. Examples of items measuring Political Interest are listed below:

1. I try to solve problems in my community.
2. I always gather information on problems in my community from newspapers.

**Propensity to Participate in Future Political Life** is the degree to which one believes s/he is likely to participate in political life (for example, voting, participating in civic groups, running for office) in the future (Vontz, et al., 2000). It is operationally defined as the mean score on a 12-item 6-point Likert-type subscale of the ASCDS. Higher scores indicate higher propensity to participate in future political life. Following are two examples of the Propensity to Participate in Future Political Life subscale.

1. If citizens write letters to their representatives, they can influence the decisions made in government.
2. People can influence government by attending community meetings to talk with government officials.

**Commitment to the Rights and Responsibilities of Citizenship**, according to Vontz et al. (2000), is the degree to which one is resolved to employ citizenship rights (for example, the right to vote, free speech, equality before the law) and the degree to which one is resolved to fulfill the obligations of citizenship (for example, paying taxes, obeying laws, participating in civic life to promote the common good).
Commitment to Rights and Responsibilities of Citizenship is operationally defined as the mean score on an 11-item 6-point Likert-type subscale of the ASCDS. Higher scores indicate more committed to the rights and responsibilities of citizenship. Examples of items measuring Commitment to the Rights and Responsibilities of Citizenship are listed below:

How likely do you think it will be that you will:
1. Work to get a political candidate elected.
2. Write a letter or make a phone call to express your opinion.

*Sense of Political Efficacy* is an attitude which is viewed by some to be necessary for the persistence of a democracy (Ehman, 1969a). According to Ehman, political efficacy refers to “the feeling of a person that he or she will have some influence on governmental decision-making, that he is able to understand the political system, and that those occupying political positions of power care about the opinions and actions of people like him” (p. 16-17). Sense of Political Efficacy is operationally defined as the mean score on a 6-item 6-point Likert-type subscale of the ASCDS. Higher scores indicate a greater sense of political efficacy. Following are two examples of the Sense of Political Efficacy subscale.

1. If citizens write letters to their representatives, they can influence the decisions made in government.
2. People can influence government by attending community meetings to talk with government officials.

*Classroom Climate*, according to Ehman (1969a; 1969b), is the extent to which students perceive that their social studies teachers dealt with social problems, discussed both sides of issues, and took neutral positions on issues. The Classroom Climate is operationally defined as the mean score on a 4-item 6-point Likert-type Classroom Climate Scale (CCS). Higher scores represent a more open climate. Following are two examples of the CCS.

1. When dealing with social issues, my teacher always presents both sides of the questions and allows both sides to be discussed.
2. When my teacher discusses social issues in class, I feel free to express my opinion.

**Project Citizen**

*Project Citizen* is a civic education program for middle school students that promotes competent and responsible participation in local governments.1 The program was originally developed by the Center for Civic Education in 1992 under the name of American Youth Citizenship Portfolio Project (Tolo, 1998). In

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1 Although *Project Citizen* was originally designed for use in the middle school, the use of the program has not been limited to middle school students. *Project Citizen* has been implemented with students as young as fifth grade and as old as twelfth grade (Tolo, 1998).
the 1995-96 school year, the program was implemented as a pilot in 12 states under its present form as *Project Citizen*. Since then the domestic program has expanded to include schools in every state as well as American Samoa, the District of Columbia, and Guam. As of May 2001, approximately 5,000 teachers had used *Project Citizen* with approximately 304,000 students (Center for Civic Education, 2003).

The widespread use of *Project Citizen* is not limited to the United States. As a part of *Civitas: An International Civic Education Exchange Program* administered by the Center for Civic Education, *Project Citizen* has been translated into various languages and implemented in more than thirty countries throughout the world (Center for Civic Education, 2003).

**Goals and Anticipated Outcomes of *Project Citizen***

Since the main purpose of this study is to evaluate the effect of *Project Citizen* on the civic skills and dispositions of Taiwanese senior high school students, it is reasonable to ask: What are the civic skills and dispositions that *Project Citizen* intends to develop? These questions need to be addressed prior to a formal evaluation of *Project Citizen*.

According to its developers, the goal of *Project Citizen* is to motivate and empower adolescents to exercise their rights and to accept the responsibilities of democratic citizenship through the intensive study of a local community problem. Specifically, *Project Citizen* is designed to help adolescents:

- learn how to monitor and influence public policy in their communities;
- learn the public policy-making process;
- develop concrete skills and the foundation needed to become responsible participating citizens;
- develop effective and creative communication skills;
- develop more positive self-concepts and confidence in exercising the rights and responsibilities of citizenship (Center for Civic Education, 2000).

**Process and Content of *Project Citizen***

*Project Citizen* focuses on the role of state and local governments. The curriculum involves an entire class of students in a series of structured, cooperative learning activities guided by their teachers and adult volunteers.

Working in cooperative teams, the class learns to interact with their government through a five-step process that includes:

- **Identifying a problem to study.** Students begin by identifying a problem in their community or school that they think is important and determining which level of government is most directly responsible for dealing with the problem.
- **Gathering information.** Once the class has decided upon the problem they want to study, they will gather and evaluate information about the problem from a variety of sources.
- **Examining solutions.** Students then examine public policies that are currently in effect. They also will examine policies being suggested by other people.
- **Developing their own public policy.** Students develop a public policy that they think their government should adopt.
- **Developing an action plan.** Students develop a plan of action to show how they might influence the appropriate government or governmental agency to adopt their proposed public policy (Center for Civic Education, 1998).

At the conclusion of the program the class will
use the materials they have gathered and written as they accomplished these tasks to develop a class portfolio. The portfolio is an organized collection of information consisting of the class plan related to the public policy issue they have chosen. According to the student textbook, the portfolio consists of two sections: a display section and a documentation section (Center for Civic Education, 1998).²

• **Display section.** For this section the work of each of the four groups should be placed on a separate panel of the four-panel display. The display should be developed so it can be placed on a table, bulletin board, or an easel. Materials to be displayed may include written statements, list of sources, charts, graphs, photographs, original art works, and so forth.

• **Documentation section.** Each of the four groups should select from the materials gathered those which best document or give evidence of their research. Materials included in the document section should represent samples of the most important and/or significant research they have completed. Not all research should be included (p.24).

As we consider the goals and content of Project Citizen and the problems facing Taiwan’s civic education, it seems that Project Citizen can be used as a curriculum supplement to remedy some of the weaknesses of Taiwan’s civic education and to help Taiwan prepare participatory citizens. Consequently, this quasi-experimental study was conducted to evaluate the effects of Project Citizen on the civic skills and dispositions of senior high school students in Taiwan.

### Review of Related Research

This research review focuses on the empirical findings concerning the impact of Project Citizen upon the civic development of adolescents and factors related to adolescent civic development. The review not only provides the researcher with the opportunity to learn the strengths and weaknesses of the research design of each of the studies but also provides further justification for this research. Moreover, it provides the research-based context within which the results are presented and interpreted.

**Research on the Effectiveness of Project Citizen**

Since its birth, few studies have been conducted to evaluate the effectiveness of Project Citizen. Tolo’s (1998) study provided the first comprehensive look at Project Citizen and its implementation throughout the United States. He used surveys to gather information from 381 students in 20 Project Citizen classes. Tolo’s research showed that students like using Project Citizen and believe it helps them learn valuable skills and information. Although Tolo’s research provides insights into the perceived effects of Project Citizen on students’ civic development from the teachers and students who used the program, his study is not comparative. From Tolo’s research, we have no idea whether the civic development of students who participated in Project Citizen was different from those who did not participate in Project Citizen.

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² For a detailed description of the requirements of each group’s section of the portfolio, see pages 27-32 in the student text.
Soule (2000) examined the effects of Project Citizen on the civic development of students in Bosnia and Herzegovina. In May 1999, 1,991 students were surveyed; approximately half had participated in Project Citizen, half had not. Using a matching comparison group, Soule found that students participating in Project Citizen have a significant improvement in political skills and knowledge, political attitudes conducive to participatory democracy, and values supportive of democracy. Soule’s research showed positive results for participating students across the three dimensions measured: political skills and knowledge, political attitudes, and values supportive of democracy; the conclusions of this study, however, need to be treated with skepticism. The political skills and knowledge, political attitudes, and values of students in both groups might have been different from each other before the students of the treatment group participated in Project Citizen; however, the initial difference between the treatment group and the comparison group was not taken into account.

To avoid the weaknesses of the previous two studies and to improve the credibility of claims regarding the effectiveness of Project Citizen, Vontz, Metcalf, and Patrick (2000) used a pre-test/post-test quasi-experimental design. Their study involved a total of 102 classes (51 treatment and 51 comparison) and 1,412 students (712 treatment and 700 comparison) in three political units: Indiana in the United States, Latvia, and Lithuania. The results of their study revealed that Project Citizen positively and significantly affects students’ civic development. Specifically, after accounting for pretest differences, students participating in Project Citizen showed a statistically significant and positive improvement in civic knowledge and civic skills. In addition, students participating in Project Citizen showed statistically significant and positive improvement in propensity to participate in political and civic life. Compared to Tolo’s and Soule’s research, Vontz, Metcalf and Patrick’s study is better designed and conducted. However, the low reliabilities of some of the subscales of the Civic Development Inventory call the findings of their research into question.3

Research by Liou (2002) was the first attempt to employ qualitative approaches to study the effectiveness of Project Citizen, to identify conditions influencing its implementation, and to explore the teacher’s and students’ perceptions of Project Citizen in a Midwestern township. A discovery was that the teacher and the students had positive perceptions of Project Citizen. The result confirmed the earlier findings of Tolo (1998). Another significant finding was that Project Citizen, as suggested by previous research (Tolo, 1998; Soule, 2000; Vontz, et al., 2000), has positive impacts on students’ civic knowledge, skills, and dispositions; it also showed positive impact on some of the psychological traits such as self-efficacy and self-regulation. Project Citizen was perceived by the teacher and most students to be a good way to learn civic education; however, several factors such as teachers’ teaching loads, classroom management difficulties and the need for teacher training have impeded its adoption. Although Liou’s study suggested the positive impact of Project Citizen, it should be noted that her study was solely based on students of one gifted class. The generalizability of her study, therefore, is limited.

3 The Alpha coefficient for the Civic Knowledge subscale, the Commitment to Responsibilities, and the Political Interest subscale are .57, .51, and .51 respectively.
Research on Factors Related to Adolescent Civic Development

The second part of the review focuses on factors associated with the intended outcomes of Project Citizen. Most of the studies concerning the influence of family factors upon the civic development of adolescents suggested that parents have a positive impact on their children’s civic development (Huang, 1994; National Assessment of Educational Progress, 1999; Niemi & Chapman, 1999; Niemi & Junn, 1998; Torney, Oppenheim, & Farnen, 1975; Torney-Purta et al., 2001). However, few parents could entirely determine the political orientation of their children (Cheng, 2001; Chen, 1994; Weissberg, 1974). Therefore, although the family plays an important role in the process of adolescents’ political socialization, it seems insufficient to predict adolescent civic development simply based on family experiences.

The school’s function is both a primary and secondary agent of political socialization (Chen, 1993). In schools, there are some manifest and systematic programs for teaching specified political information, attitudes, and values. In contrast, some of the political messages are latent, or transmitted in unintended ways (Ehman, 1969a; Wasburn, 1986). The school-related variables that influence students’ civic development include grade level, classroom climate (Baughman, 1975; Blankshension, 1990; Ehman, 1969a; 1969b; 1970; 1980; Hahn, 1998; Hahn & Tocci, 1990; Harwood, 1991; Torney-Purta et al., 2001), participation in school governance and experience of extracurricular activities (Beck, 1977; Chang, 1993; Niemi & Chapman, 1999; Niemi & Junn, 1998). Selected teachers’ characteristics (Chang, 1993; Huang, 1997; NAEP, 1999; Sheen, Lu & Chou, 1998; 1999) and formal civic instruction (Brody, 1994; Chang, Wu & Liou, 1999; Chen, 1995; Liao, Liu & Doong, 1998; Patrick, 1972; Soule, 2000; Vontz et al., 2000) also make a difference in the democratic attitudes, skills, and knowledge learned by students.

Increasingly, mass media has become a more crucial societal factor, occupying, at present, a significant portion of children’s or adolescents’ attention. Therefore, mass media is becoming increasingly important in the civic development of adolescents (Chaffee & Becker, 1975; Chaffee, Jackson-Beeck, Durall, & Wilson, 1977; Connell, 1971; Dominick, 1972; Garramone & Atkin, 1986; Porter, 1978; Wang, 2000).

The importance of each of these factors on the civic development of students has been identified in the research literature; however, the findings of these studies have sometimes been conflicting. Vontz et al.’s study (2000) investigated the influence of most of the factors on the effectiveness of Project Citizen. However, because of the small usable sample size (usable \( n = 192 \)) and problems of accuracy in measuring some variables, none of the factors was found to be significant. Larger sample size and appropriate measures are necessary to establish valid conclusions concerning the program’s efficacy in civic education.

Additionally, the emphasis of most studies in Taiwan was on the relative impact of selected factors within one category upon the civic development of adolescents. Influences upon civic development, however, do not come exclusively from variables within one category. In the United States considerable studies have been conducted to examine the impact of these factors from a more comprehensive perspective; few studies of this type, however, have been undertaken in Taiwan. This study,
with its focus on the effectiveness of an issues-centered civic curriculum, Project Citizen, also sought to investigate, in a more comprehensive manner, the factors related to the effectiveness of the Project Citizen program. The following variables were included: (1) gender, (2) grade level, (3) confidence in attending college, (4) literacy resource available at home, (5) parent education, (6) students’ frequency of extracurricular participation, (7) teacher’s education, (8) professional development (participation in Project Citizen workshop), (9) teaching experience, (10) classroom climate, and (11) exposure to news of various media resources.

Methodology

This research employed a hierarchical non-random, pretest-posttest comparison group design. The design is hierarchical because each class appeared with only one level of the treatment (either in Project Citizen in addition to regular Civics or Three Principles of the People instruction, or in regular Civics or Three Principles of the People instruction). Twelve Taiwanese senior high school teachers each with two classes of students, one experimental and one comparison, participated in this study.

Quantitative and qualitative methods were combined to address the research questions. According to Merriam (1998), whereas the experimental design is more appropriate for a cause-and-effect investigation, “how” and “why” questions are best answered by qualitative inquiry. In this study quantitative methods were used to evaluate the effect of Project Citizen on the civic skills and dispositions of Taiwanese senior high school students and the factors associated with its effectiveness. Qualitative methods were used to provide in-depth descriptions of teachers’ perceptions of Project Citizen, to better understand the process of Project Citizen, and to explore possible explanations for the quantitative data.

Participants

Participating schools and classes. Originally, 13 schools with two classes from each school participated in the study. However, the experimental class in one school chose to withdraw from the study before the students completed the posttest. All students of the experimental class and students in the comparison class from the school were excluded from the final analysis. Therefore the final sample consisted of the 952 participants for which there were complete pretest and posttest data on all variables; analysis was based on data from students in 24 classes of 12 senior high schools across the nation.

Participating teachers. All the participating teachers are female and civics majors and their teaching experience ranges from five years to 21 years. Most of the participating teachers taught at junior high schools several years before they taught at senior high schools. Currently, all the teachers teach both Civics and Three Principles of the People.

Participating students. At first 1,108 students nested within 26 classes participated in the study.

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4 Literacy resource available at home adopts the IEA’s definition (Torney, et al, 1975; Torney-Purta, et al, 1999). It refers to the number of books available at home, but not counting newspapers, magazines or books for school.
Forty-two students of one experimental class chose to withdraw from the study before they completed the instruction of Project Citizen; therefore 42 students in this class and 42 students in its corresponding comparison class were withdrawn from the study. Additionally, of the remaining 1,024 students, 21 students did not take the pretest and 19 students did not take the posttest; therefore, they were excluded from the final analysis. Moreover, 32 students had missing data. After reviewing these 32 students’ original questionnaires, it was found that all the 32 students did not respond to at least one page of the questionnaire. This most likely resulted from the double-sided printing of the questionnaires; the students might not have noticed the reverse page, and therefore did not respond to the full questionnaire. According to Little and Rubin (1987), missing data of this kind should be considered as data that are missing completely at random (MCAR). Since there were only 32 cases having missing data (less than 3%) and they were considered MCAR, the 32 cases were also excluded from the final analyses. Therefore, the final usable sample of this study consisted of 952 students.

Independent sample chi-square tests were performed to examine whether selected categorical background factors of the experimental and comparison groups were different. The result was presented in Table 1. Furthermore, independent sample t-tests were conducted to test the differences in baseline civic skills and dispositions between the experimental and comparison groups (see Table 2).

Research Procedures

The study combined both quantitative and qualitative data to form an in-depth understanding of the effect of Project Citizen upon the civic skills and dispositions of Taiwanese senior high school students, the factors influencing its effectiveness, and teachers’ perceptions of Project Citizen. The procedures employed are described below.

Preparation of Teaching Materials. Although the Project Citizen student text and teacher’s guide had been translated into Simplified Chinese, for adoption in Taiwan some idioms and phrases required modification. Starting in December 2000, the researcher began to revise the Taiwanese edition of Project Citizen student text and teacher’s guide. The revised student text and teacher’s guide were given to two senior high school teachers for reviewing, and revisions were made based on their suggestions. In addition, the Complex Chinese edition of the Project Citizen student text was read by two Taiwanese senior high school students to ensure its language appropriateness.

Selection and Training of Teachers. Based on the awareness that teachers play critical roles in any education enterprise; the researcher conducted a 3-day workshop on Project Citizen for the teachers who expressed interest to learn and to teach Project Citizen. The 3-day workshop was intended to provide participants with the methods and content necessary for implementing Project Citizen.

Obtaining Consents from Participants. Before the experiment all participants were informed about the purpose of this study. Informed consent forms were given to the teachers as well as to the parents of the participating students. They were assured that their participation would be voluntary, and that, if they decide to participate, they could withdraw from the study at any time.
Table 1  Selected characteristics of the participating students (N=952)

<table>
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<tr>
<th>Characteristic</th>
<th>Experiment</th>
<th>Comparison</th>
<th>Total</th>
<th>$\chi^2$</th>
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<tr>
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<td>252(53.5)</td>
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<td>219(46.5)</td>
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<td>1-10</td>
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<td>105(22.3)</td>
<td>235(24.7)</td>
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<td>104(22.1)</td>
<td>215(22.6)</td>
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<td>101-200</td>
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<td>69(14.6)</td>
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<td>More than 200</td>
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<td>160(34.0)</td>
<td>294(30.9)</td>
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<td>Confidence in attending college</td>
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<td>45(9.6)</td>
<td>80(8.4)</td>
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<td>Strong (8-10)</td>
<td>188(39.1)</td>
<td>202(42.9)</td>
<td>390(41.0)</td>
<td>4.05</td>
<td>.13</td>
</tr>
<tr>
<td>Mother’s education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No schooling</td>
<td>2(0.4)</td>
<td>2(0.4)</td>
<td>4(0.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary school</td>
<td>67(13.9)</td>
<td>57(12.1)</td>
<td>124(13.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior high school</td>
<td>94(19.5)</td>
<td>75(15.9)</td>
<td>169(17.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior high school</td>
<td>203(42.2)</td>
<td>193(41.0)</td>
<td>396(41.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior college</td>
<td>40(8.3)</td>
<td>54(11.5)</td>
<td>94(9.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>67(13.9)</td>
<td>82(17.4)</td>
<td>149(15.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate school</td>
<td>8(1.7)</td>
<td>8(1.7)</td>
<td>16(1.7)</td>
<td>6.69</td>
<td>.35</td>
</tr>
<tr>
<td>Father’s education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No schooling</td>
<td>2(0.4)</td>
<td>4(0.8)</td>
<td>6(0.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary school</td>
<td>42(8.7)</td>
<td>37(7.9)</td>
<td>79(8.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior high school</td>
<td>82(17.0)</td>
<td>71(15.1)</td>
<td>153(16.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior high school</td>
<td>175(36.4)</td>
<td>157(33.3)</td>
<td>332(34.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior college</td>
<td>74(15.4)</td>
<td>69(14.6)</td>
<td>143(15.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>84(17.5)</td>
<td>103(21.9)</td>
<td>187(19.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate school</td>
<td>22(4.6)</td>
<td>30(6.4)</td>
<td>52(5.5)</td>
<td>5.98</td>
<td>.43</td>
</tr>
<tr>
<td>Extracurricular participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 or more days a week</td>
<td>55(11.4)</td>
<td>53(11.3)</td>
<td>108(11.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 3 days a week</td>
<td>139(28.9)</td>
<td>132(28.0)</td>
<td>271(28.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A few times each month</td>
<td>155(32.2)</td>
<td>146(31.0)</td>
<td>301(31.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never or almost never</td>
<td>132(27.4)</td>
<td>140(29.7)</td>
<td>272(28.6)</td>
<td>.62</td>
<td>.89</td>
</tr>
<tr>
<td>Mass Media Exposure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>low (1-2 times a week)</td>
<td>125(26.0)</td>
<td>102(21.7)</td>
<td>227(23.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>average (3-5 times a week)</td>
<td>305(63.4)</td>
<td>317(67.3)</td>
<td>622(65.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>high (6-7 times a week)</td>
<td>51(10.6)</td>
<td>52(11.0)</td>
<td>103(10.8)</td>
<td>2.47</td>
<td>.29</td>
</tr>
</tbody>
</table>

Note: percentages are listed in parentheses
Table 2  \textit{t}-test of pretest civic skills and the four dimensions of civic dispositions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>( t ) (df = 951)</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic skills</td>
<td>Experiment</td>
<td>3.46</td>
<td>.86</td>
<td>-2.631</td>
<td>.009**</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>3.60</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political interest</td>
<td>Experiment</td>
<td>3.40</td>
<td>.87</td>
<td>-2.713</td>
<td>.007**</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>3.55</td>
<td>.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propensity to participate</td>
<td>Experiment</td>
<td>3.60</td>
<td>.78</td>
<td>-1.485</td>
<td>.138</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>3.67</td>
<td>.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment to rights and</td>
<td>Experiment</td>
<td>5.22</td>
<td>.51</td>
<td>1.045</td>
<td>.296</td>
</tr>
<tr>
<td>responsibilities of citizenship</td>
<td>Comparison</td>
<td>5.19</td>
<td>.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sense of political efficacy</td>
<td>Experiment</td>
<td>4.48</td>
<td>.84</td>
<td>1.279</td>
<td>.201</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>4.41</td>
<td>.81</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**\( p < .01 \) (2-tailed).**

\textit{Selection and Training of Teachers.} Based on the awareness that teachers play critical roles in any education enterprise; the researcher conducted a 3-day workshop on \textit{Project Citizen} for the teachers who expressed interest to learn and to teach \textit{Project Citizen}. The 3-day workshop was intended to provide participants with the methods and content necessary for implementing \textit{Project Citizen}.\(^5\)

\textit{Obtaining Consents from Participants.} Before the experiment all participants were informed about the purpose of this study. Informed consent forms were given to the teachers as well as to the parents of the participating students. They were assured that their participation would be voluntary, and that, if they decide to participate, they could withdraw from the study at any time.

\textit{Pretest.} The pretest was administered to all students before the experimental classes’ students engaged in \textit{Project Citizen}; the pretest was administered during regular class time by the participating teachers. On average, the pretest took 15 to 20 minutes to complete.

\textit{Intervention Stage.} After the students in both the experimental and comparison classes took the pretest, the experimental students began to receive issues-based instruction using \textit{Project Citizen} as an adjunct to traditional instruction of \textit{Civics} or \textit{Three Principles of the People}. In contrast to the experimental students, the comparison students received traditional, discipline-based instruction of \textit{Civics} or \textit{Three Principles of the People} based upon the hierarchical model of knowledge acquisition.

Because of the large sample size and geographic distribution of the participating classes, direct observation of these classes was difficult to conduct. To ensure that the participating teachers followed important guidelines and procedures as specified in \textit{Project Citizen} text, a checklist was developed and given to each participating teacher. The participating teachers were asked to record the progress of the class at each stage of the implementation process, in addition to any changes in instruction. They were also asked to write down all of their questions and concerns. To ensure that problems and difficulties were resolved promptly, regular communications with the participating teachers were conducted via various methods such as mail, emails, and phone calls.

\(^5\) The 3-day workshop agenda is available from the author.
Information gathered from the mail, emails, phone calls and the checklists, as well as the teacher interviews (which will be described below) were taken as supporting evidence that the participating teachers followed the important guidelines specified in the *Project Citizen* text and the procedures of this study.

**Posttest.** The posttest (same as pretest) was administered to all students immediately following the completion of the class portfolios by the experimental classes. Again, the test took approximately 15 to 20 minutes for completion and was administered during regular class time by the participating teachers.

**Teacher Interviews.** Semi-structured interviews were conducted with the 13 participating teachers between December 22, 2001 and February 4, 2002. The interviews with twelve teachers were conducted in person. Each teacher interview lasted for about 40 to 70 minutes. All of the interviews were audio-taped with the interviewees’ permission.

**Instrumentation**

**Pretest and posttest questionnaire.** Based on the work of previous researchers (Ehman, 1969b; Vontz et al, 2000; Harwood, 1991; Angell, 1990; Verba, Schlozman & Brady, 1995; Jennings & Niemi, 1974), a Likert-type questionnaire with scales measuring students’ civic skills and dispositions was constructed and was administered. The questionnaire was assessed for content validity, face validity, and construct validity using data from the pilot-, pre- and post-tests. Reliability tests conducted from the pilot-, pre- and post-tests produced a Cronbach’s α of .76 and greater for all scales. Table 3 listed the reliability coefficients for pretest and posttest.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic skills</td>
<td>.91 (11)</td>
<td>.92 (11)</td>
</tr>
<tr>
<td>Civic dispositions</td>
<td>.87 (38)</td>
<td>.88 (38)</td>
</tr>
<tr>
<td>Political interest</td>
<td>.85 (9)</td>
<td>.83 (9)</td>
</tr>
<tr>
<td>Political efficacy</td>
<td>.76 (6)</td>
<td>.78 (6)</td>
</tr>
<tr>
<td>Propensity to participate</td>
<td>.81 (12)</td>
<td>.83 (12)</td>
</tr>
<tr>
<td>Commitment to rights and responsibilities of citizenship</td>
<td>.80 (11)</td>
<td>.86 (11)</td>
</tr>
</tbody>
</table>

Note: Item numbers are listed in parentheses.

---

6 Initially, this study was intended to evaluate the effect of *Project Citizen* on the civic knowledge, skills, and dispositions of Taiwanese high school students. However, the reliability for Test of Civic Knowledge was only .18, which is unacceptably low. Homogeneity of the sample (all are public high school students) and the corresponding ceiling effect (the average score of the pilot sample is 88.25 out of a possible 100, and 68% of the scores ranged from 82 to 95) may have contributed to the low reliability of the Civic Knowledge Scale. Because the reliability of Civic Knowledge Scale was incredibly low and Taiwanese high school students have relatively good understanding of civic knowledge, after discussion with the committee members, civic knowledge was dropped from this study.

7 For the pilot data, Principal Axis Factor Analysis using Squared Multiple Correlation (SMC) as the initial commonality estimate was run through SAS® version 8 (SAS Institute Inc., 1999) in the Windows 2000 environment. Four factors were extracted. To confirm the construct validity of ASCDS, data from pretests and posttests from the 952 students were also used to perform factor analysis. The results of factor analyses are available from the author.
Interview Protocol. The interview protocol consisted of four parts. The first part of the interview was designed to provide a general understanding of the schools where Project Citizen was implemented. The second part was for the purpose of establishing the context of the participating teachers’ experience. The third part of the interview focused on understanding the characteristics of the sampled classes and students. The final part of the interview encouraged the participating teachers to reflect on the meaning of their experiences teaching Project Citizen.

Data Analysis
The data collected from this study were categorized as quantitative and qualitative and were subjected to different treatments. The quantitative data gathered using the questionnaires were analyzed using SAS® version 8 (SAS Institute Inc., 1999) and SPSS® version 10 (SPSS Inc., 1999) in the Windows 2000 environment. The data from the teacher interviews were interpreted qualitatively according to the four prescribed themes.

Quantitative Data Analysis. In this study intact classes were nested in the experimental conditions, therefore, Hierarchical Analysis of Covariance (Hierarchical ANCOVA) was used to test Project Citizen’s effect on senior high school students’ civic skills and dispositions. The use of hierarchical design enables the researcher to isolate the nuisance variable of classes, which might affect students’ civic skills and dispositions. It also incorporates the inherent hierarchical structure of the data into the analysis. Finally, standard multiple regression analysis (SMR) was conducted to explore factors associated with the effect of Project Citizen in Taiwan. All hypotheses were one-tailed and were tested at an alpha level of .05.

Qualitative Data Analysis. All teacher interviews were audio-recorded, transcribed and translated, if necessary, into English. The interview transcripts were carefully examined according to four prescribed themes pertaining to the implementation of Project Citizen: 1) teachers’ attitudes toward Project Citizen, 2) Project Citizen’s advantages to students, 3) challenges of implementing Project Citizen, and 4) suggestions for adopting Project Citizen in Taiwan.

Findings

Effect of Project Citizen on Adolescent Civic Skills and Dispositions
The results of Project Citizen’s effect on the civic skills and dispositions of Taiwanese senior high school students are summarized in Table 4. Statistically, results of the Hierarchical ANCOVA showed that, after adjusting for the difference of civic skills pretest, the experimental group significantly outperformed the comparison group. With regard to the four dimensions of civic dispositions, students in the experimental group significantly outperformed the comparison group in political interest and commitment to the rights and responsibilities of citizenship. However, no significant differences were found in the students’ propensity to participate in future political life and sense of political efficacy.
Table 4  *Hierarchical ANCOVA summary for civic skills and dispositions subscales*

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Civic skills</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>7.08</td>
<td>1</td>
<td>7.08</td>
<td>10.23</td>
<td>.0021**</td>
</tr>
<tr>
<td>Class (Group)</td>
<td>15.22</td>
<td>22</td>
<td>.69</td>
<td>1.75</td>
<td>.0099</td>
</tr>
<tr>
<td>Error</td>
<td>366.41</td>
<td>927</td>
<td>.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Political interest</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>1.81</td>
<td>1</td>
<td>1.81</td>
<td>3.71</td>
<td>.0335*</td>
</tr>
<tr>
<td>Class (Group)</td>
<td>10.75</td>
<td>22</td>
<td>.49</td>
<td>1.26</td>
<td>.0933</td>
</tr>
<tr>
<td>Error</td>
<td>358.60</td>
<td>927</td>
<td>.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Propensity to participate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>1.13</td>
<td>1</td>
<td>1.13</td>
<td>2.55</td>
<td>NS ^a</td>
</tr>
<tr>
<td>Class (Group)</td>
<td>9.75</td>
<td>22</td>
<td>.44</td>
<td>1.66</td>
<td>.0144</td>
</tr>
<tr>
<td>Error</td>
<td>247.51</td>
<td>927</td>
<td>.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commitment to rights and responsibilities of citizenship</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>4.85</td>
<td>1</td>
<td>4.85</td>
<td>6.01</td>
<td>.0113*</td>
</tr>
<tr>
<td>Class (Group)</td>
<td>17.79</td>
<td>22</td>
<td>.81</td>
<td>2.91</td>
<td>&lt; .0001</td>
</tr>
<tr>
<td>Error</td>
<td>257.29</td>
<td>927</td>
<td>.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sense of political efficacy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>.99</td>
<td>1</td>
<td>.99</td>
<td>1.27</td>
<td>NS ^a</td>
</tr>
<tr>
<td>Class (Group)</td>
<td>17.29</td>
<td>22</td>
<td>.79</td>
<td>1.59</td>
<td>.0209</td>
</tr>
<tr>
<td>Error</td>
<td>458.65</td>
<td>927</td>
<td>.49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05, **p < .01 (one-tailed)
^a Not significant at α = .05.

To evaluate the practical significance of *Project Citizen*, the most popular measure of strength of association for fixed treatment effects, omega squared (ω^2_), was calculated. Practically, *Project Citizen* had large associations with students’ perceived civic skills (ω^2_ = .42), political interest (ω^2_ = .17), and commitment to rights and responsibilities of citizenship (ω^2_ = .28)^8_.

Factors associated with *Project Citizen*’s effect

Two separate SMR using standardized residuals in civic skills and another in civic dispositions as the dependent variables were performed. The independent variables were students’ gender, grade level, confidence in attending college, home literacy resource, parent education, frequency of extracurricular participation, teachers’ participation in the *Project Citizen* workshop, teachers’ education, teaching experience, classroom climate, and students’ exposure to news of various mass media resources.

**Civic Skills.** Table 5 displays the unstandarized regression coefficients (b) and intercept, standard error (SE), the standaradized regression coefficients (β), the squared semipartial correlations (sr^2) and R^2, and adjusted R^2. As shown, R for regression was significantly different from zero. F (11, 469) = 4.552, p < .01.

---

^8 According to Cohen (1988), the following guidelines are suggested for interpreting strength of association: ω^2_ = .010 is a small association, ω^2_ = .059 is a medium association, and ω^2_ = .138 or larger is a large association.
### Table 5  Standard multiple regression of factors associated with the effect of Project Citizen on the civic skills of Taiwanese senior high school students

<table>
<thead>
<tr>
<th>Variable</th>
<th>$b$</th>
<th>SE</th>
<th>$\beta$</th>
<th>$sr_i^2$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-2.045</td>
<td>.509</td>
<td>-4.016</td>
<td>&lt;.001</td>
<td>.778</td>
<td>.437</td>
</tr>
<tr>
<td>Gender</td>
<td>.075</td>
<td>.097</td>
<td>.038</td>
<td>&lt;.001</td>
<td>.828</td>
<td>.408</td>
</tr>
<tr>
<td>Grade level</td>
<td>.090</td>
<td>.109</td>
<td>.044</td>
<td>.002</td>
<td>.248</td>
<td>.804</td>
</tr>
<tr>
<td>Confidence in attending college</td>
<td>.005</td>
<td>.021</td>
<td>.012</td>
<td>.006</td>
<td>.277</td>
<td>.782</td>
</tr>
<tr>
<td>Home literacy resource</td>
<td>.011</td>
<td>.039</td>
<td>.014</td>
<td>.001</td>
<td>.277</td>
<td>.782</td>
</tr>
<tr>
<td>Parent education</td>
<td>-.009</td>
<td>.043</td>
<td>-.010</td>
<td>&lt;.001</td>
<td>-.205</td>
<td>.837</td>
</tr>
<tr>
<td>Extracurricular participation</td>
<td>-.033</td>
<td>.046</td>
<td>-.033</td>
<td>.001</td>
<td>-.730</td>
<td>.466</td>
</tr>
<tr>
<td>Teacher training of PC</td>
<td>.034</td>
<td>.064</td>
<td>.028</td>
<td>&lt;.001</td>
<td>.531</td>
<td>.596</td>
</tr>
<tr>
<td>Teacher education</td>
<td>.083</td>
<td>.072</td>
<td>.071</td>
<td>&lt;.001</td>
<td>1.150</td>
<td>.251</td>
</tr>
<tr>
<td>Teaching experience</td>
<td>.022</td>
<td>.009</td>
<td>.109</td>
<td>.014</td>
<td>2.366</td>
<td>.018*</td>
</tr>
<tr>
<td>Classroom climate</td>
<td>.190</td>
<td>.063</td>
<td>.139</td>
<td>.026</td>
<td>3.029</td>
<td>.003**</td>
</tr>
<tr>
<td>Mass media exposure</td>
<td>.160</td>
<td>.033</td>
<td>.229</td>
<td>.045</td>
<td>4.845</td>
<td>&lt;.001**</td>
</tr>
</tbody>
</table>

Model

$R = .311$

$R^2 = .096$

Adjusted $R^2 = .075$

$F (11, 469) = 4.552, p < .01$

* $p < .05$, ** $p < .01$ (two-tailed)

Only three of the predictor variables contributed significantly to predictions of the effect of Project Citizen on the civic skills of Taiwanese senior high school students, teacher’s teaching experience ($sr_i^2 = 1.4\%$), classroom climate ($sr_i^2 = 2.6\%$), and mass media exposure ($sr_i^2 = 4.5\%$). The 11 predictor variables in combination contributed to another 1.1% in shared variability. Altogether, 9.6% (7.5% adjusted) of the variability in effect of Project Citizen was predicted by knowing scores from these 11 predictor variables.

### Civic Dispositions

Table 6 displays the unstandarized regression coefficients ($b$) and intercept, standard error (SE), the standardardized regression coefficients ($\beta$), the squared semipartial correlations ($sr_i^2$) and $R^2$, and adjusted $R^2$. As shown, $R$ for regression was significantly different from zero.

$F (11, 469) = 4.905, p < .01$.

Only three of the predictor variables contributed significantly to predictions of the effect of Project Citizen on the civic dispositions of Taiwanese senior high school students, students’ confidence in attending college ($sr_i^2 = 2.2\%$), classroom climate ($sr_i^2 = 4.1\%$), and mass media exposure ($sr_i^2 = 2.5\%$). The 11 predictor variables in combination contributed to another 1.5% in shared variability. Altogether, 10.3% (8.2% adjusted) of the variability in effect of Project Citizen was predicted by knowing scores from these 11 predictor variables.
Table 6  Standard multiple regression of factors associated with the effect of Project Citizen on the civic dispositions of Taiwanese senior high school students

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>SE</th>
<th>β</th>
<th>sr²</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-1.600</td>
<td>.507</td>
<td></td>
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<td>.021</td>
<td>.105</td>
<td>.022</td>
<td>2.188</td>
<td>.029*</td>
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<td>.041</td>
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<td>Mass media exposure</td>
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<td>.033</td>
<td>.169</td>
<td>.025</td>
<td>3.598</td>
<td>&lt;.001*</td>
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Model

- $R = .321$
- $R^2 = .103$
- adjusted $R^2 = .082$
- $F (11, 469) = 4.905, p < .01$

* $p < .05$, ** $p < .01$ (two-tailed)

Analysis of Qualitative Data

Qualitative analyses of the teacher interviews revealed that all participating teachers responded positively toward Project Citizen and showed interest in implementing it again in their classes. The results also suggested, however, that time constraints, students’ abilities, and the pressure from the Joint College Entrance Examination, among other factors, pose significant challenges to implementing Project Citizen in the Taiwanese context. Valuable suggestions to address these challenges, such as correlating Project Citizen with current curriculum frameworks and simplifying the procedures and materials, were provided by the participating teachers.

Discussion

Effect of Project Citizen on Adolescent Civic Skills and Dispositions

The quantitative and qualitative analyses of this study indicted that there was a difference in the civic skills of Taiwanese senior high school students according to the treatment of Project Citizen in conjunction with traditional Civics or Three Principles of the People instruction or traditional Civics or Three Principles of the People instruction alone. Project Citizen in conjunction with traditional Civics or Three Principles of the People instruction is more effective than traditional Civics and Three Principles of the People instruction in promoting students’ civic skills. As indicated previously, the
intended outcome of *Project Citizen* is on the development of those civic skills and dispositions that enable and motivate responsible political participation in civic life. Students participating in *Project Citizen* are encouraged to practice a variety of intellectual and participatory skills through their participation in the program. The results of this study support the intended outcome of *Project Citizen*. Through the process of identifying a school or community issue, evaluating possible solutions, selecting and defending a class policy, and developing an action plan, the intellectual and participatory skills of students are enhanced. As such, this study confirms Soule’s (2000) and Tolo’s (1998) survey studies, the recent quasi-experimental study by Vontz et al. (2000), and Liou’s (2002) case study.

As mentioned in the literature review, these studies concluded that *Project Citizen* does have a positive effect on the civic skills, both intellectual and participatory, of adolescent students. This study lends support for this claim.

In addition to the civic skills of Taiwanese senior high school students, *Project Citizen* was also found to have a significant positive effect on two dimensions of the civic dispositions of Taiwanese senior high school students: political interest and commitment to the rights and responsibilities of citizenship. As mentioned previously, the goal of *Project Citizen* is to motivate and empower adolescents to exercise their rights and to accept the responsibilities of democratic citizenship through the intensive study of a local community problem that is relevant and is of concern to them. Therefore, the significant positive effect of *Project Citizen* on the political interest and commitment to rights and responsibility of citizenship of Taiwanese senior high school students is expected. This instructional expectation, confirmed by the results of this study, therefore, validates the findings of Liou (2002), Soule (2000) and Tolo (1998).

In contrast to the significant findings of political interest and commitment to the rights and responsibilities of citizenship, a significant positive effect of *Project Citizen* was not found in the following two dimensions: propensity to participate in future political life and sense of political efficacy. This result is inconsistent with previous research (Liou, 2002; Soule, 2000; Tolo, 1998) that suggested *Project Citizen* helps students to foster a sense of competence and efficacy. Although examination of the descriptive data from this study indicates that the experimental students scored higher than the comparison students in the two dimensions of civic dispositions, the difference is not great enough to be considered significant. Several reasons might account for the insignificant result. It is possible that one semester is too brief a period of time to greatly alter the attitudes and beliefs into which students have been socialized over a much longer period of time. It is also possible that the priority placed upon passing the college entrance examination contributed to this finding of insignificant effect. As noted earlier, the vast majority of Taiwanese feel that a young person’s first priority in life is to achieve a high score on the Joint College Entrance Examination (JCEE) and nothing is more important than being admitted to a good college. Accordingly, students are not motivated to participate in political life. Another possible explanation was revealed from the teacher interviews. According to most participating teachers, students’ thinking abilities and participation skills are rarely exercised and challenged; therefore, they are not confident in their ability to influence public policy. Although by participating in *Project Citizen* students
are offered the opportunity to practice the abilities and skills that are conducive to civic participation, they still have inadequate confidence in their ability to make a difference in political affairs.

Factors associated with Project Citizen’s Effect

Classroom climate is one of the two significant variables that were positively related to the effect of Project Citizen on both the civic skills and dispositions of Taiwanese senior high school students. The findings of this study confirm that of most studies concerning the relationship between classroom climate and civic development: the more open the classroom climate, the better the civic development of the students (Baughman, 1975; Blankshenship, 1990; Ehman, 1969a, 1969b, 1970, 1980; Hahn & Tocci, 1990; Harwood, 1991; Torney-Purta, et al., 2001). The highly interactive nature of the learning processes involved in Project Citizen suggests that the program is well-suited to fostering civic development through the creation of a more open classroom climate.

Another significant predictor variable to the effect of Project Citizen on the civic skills and dispositions is students’ exposure to news of various media resources. Using a joint index of exposure to news of various media resources, the result of this study supports most of the research findings in the United States indicating that higher exposure to news is associated with advanced civic development (Chaffee & Becker, 1975, Chaffee, Jackson-Beeck, Durall, & Wilson, 1977; Connell, 1971; Dominick, 1972; Garramone & Atkin, 1986, Porter, 1978). The joint index is also more reliable and powerful than a single index to detect the positive relationship between media exposure and adolescent civic development (Cheng, 2001) or the effect of a specific civic instruction (Chen, 1995).

Teacher’s teaching experience appeared to be statistically significant but less influential on Project Citizen’s effect on senior high school students’ civic skills. The result of this study lends support to previous studies that the more experienced teachers help their students to achieve better results (Huang, 1997) but the relationship was not very clear for students in higher grades (NAEP, 1999). In this study student’s confidence in attending college was found to be related to Project Citizen’s effect on the civic dispositions of Taiwanese senior high school students. It is possible that students who have less confidence of attending college are students who are struggling and need to study even harder to ensure that they will be admitted to college. Consequently, as compared with students of stronger confidence in attending college, students of less confidence are less attentive and committed to political affairs around them.

The remaining variables, students’ gender, grade level, confidence in attending college (significant predictor only for civic dispositions), home literacy resource, parent education, frequency of extracurricular participation, and teachers’ participation in the Project Citizen workshop, teachers’ education, and teaching experience (significant predictor only for civic skills), were not significantly related to the effect of Project Citizen. Previous studies have suggested that these factors seemed to be related to adolescent civic development. However, these variables were not found to be related to the effect of Project Citizen. These factors might, indeed, be related to adolescent civic development to varying degrees. However, in this study, standardized residual gain scores were used as the criterion variable, and it is possible that the impact of these factors was not large enough to suggest significant
relationships, or that the influence of these factors was ruled out.

Teacher’s Perceptions of Project Citizen

Because of the detailed materials that Project Citizen provides and the advantages that Project Citizen brings to the students, teachers responded positively toward Project Citizen. However, these teachers faced challenges such as time constraints, students’ inadequate abilities, pressure from the JCEE, curriculum integration, topic selections, uncertainty of the implementation schedule of Project Citizen, lack of sample portfolios, and limited resources available to their students. Such difficulties might limit their motivation to include Project Citizen in their class. Some of the challenges such as curriculum integration, topic selections, and uncertainty of the implementation schedule of Project Citizen were also found in Tolo’s (1998) study of Project Citizen’s users in the United States. Other obstacles such as time constraints, students’ inadequate abilities, external pressure from the JCEE, and limited resources available to the students may be unique to the Taiwanese context.

In order to address these challenges, valuable suggestions were provided by the participating teachers. Their suggestions included: 1) simplifying the procedures and materials, 2) revising the translation of Project Citizen, 3) providing a list of suggested Project Citizen topics, 4) providing concrete sample portfolios, 5) correlating Project Citizen with current curriculum frameworks, 6) initiating the Project Citizen portfolio competition, 7) offering Project Citizen teacher training, 8) providing a suggested syllabus and schedule, 9) developing a manual for inexperienced teachers, and 10) establishing an advisory network. Because Project Citizen is a new curriculum in Taiwan, these recommendations will help to familiarize teachers and students with the features of the new program. In addition, given the stress from the JCEE and the demands upon teachers and students, some of these recommendations address the unique culture of high school life in Taiwan. These suggestions are critical to the successful adoption of Project Citizen in Taiwan.

Implications for Civic Education

Traditionally, in school, we are taught to view society as stable and basically peaceful. In reality, our society is dynamic, and filled with tensions and contradictions. Such turmoil and contradictions are reflected in the experiences of youth life beyond the school walls. Increasingly, awareness of these tensions in social life is being reflected within the practices of the school, but the school continues to lag behind society. A civic curriculum oriented toward social change and the resolution of tensions and conflicts is not “merely” more relevant and realistic to the students than is the conventional curriculum; to the extent that it corresponds more closely to the reality the student experiences beyond the realm of school, an issues-centered civic curriculum better equips the student to engage the dilemmas of public life as an effective democratic citizen.

Both the quantitative and qualitative analyses of data support previous research that Project Citizen
has positive impacts upon the civic development of Taiwanese senior high school students. The finding that Project Citizen enhanced senior high school students’ civic skills and dispositions suggests the positive implications of the issues-centered curriculum. For those civic educators who accept the assumption that teaching for informed and responsible participation should be the major goal of civic education, this research offers support for the hope that their goal is attainable. Further, this study suggests directions in which civic curriculum reform might move to promote the citizenship ideal.

An implication valuable for adopting Project Citizen in Taiwan follows from the findings that classroom climate and students’ exposure to news of various media resources are positively related to the effect of Project Citizen on the civic skills and dispositions of Taiwanese senior high school students. This is not to suggest that these are the only factors that are related to Project Citizen’s effect, but rather to lend support to the findings of previous research studies. When students perceive their classroom to be an open environment, one in which students are encouraged to explore and express differing views related to public issues, civics instruction has a beneficial influence upon students’ civic skills and dispositions. This being the case, civic educators should examine classroom climate and instructional practices in an effort to identify those aspects that hold potential for incorporating the modes of inquiry and discourse suited to democratic life. In addition, when students are exposed to the news coverage from various media sources, they are able to examine diverse views concerning substantive public issues. This, in turn, may have a favorable impact upon their civic skills and dispositions. Implementing Project Citizen in the Taiwanese senior high school, this study’s findings suggest, can contribute significantly to this effort to more closely align the practices of the Civics classroom with the imperatives of civic life in a modern democratic society.

In addition to support for Project Citizen, an issues-centered curriculum, this study provides a basis for comparison of different cultures. By incorporating the perspectives of the participating teachers, this study points out the need to take into account the potential cultural variations in the adoption of curricular programs. The format and process of implementing Project Citizen as conducted in the United States, these teachers indicated, are not entirely applicable to the Taiwanese high school context. Although various studies have shown many positive impacts of Project Citizen on adolescent civic development, this does not mean that Project Citizen can be adopted without any difficulties in Taiwan. In fact, in addition to some challenges experienced universally in using Project Citizen (such as curriculum integration, topic selections, uncertainty of the implementation schedule of Project Citizen), Taiwan’s teachers encountered even more challenges when implementing Project Citizen: time constraints, students’ inadequate abilities, pressure from the JCEE, and limited resources available to the students. Some of these challenges may be unique to the Taiwanese context; at the very least, to ensure an effective adaptation of Project Citizen in Taiwan, the cultural contingencies involved in these factors should be taken into account.
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「公民養成方案」影響台灣高中學生公民技能
與公民性之實驗研究

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本研究旨在評估「公民養成方案」對台灣高中學生公民技能與公民性的影響；探討影響「公民養成方案」實施成效的因素，以及了解教師使用該課程的觀感。

為達研究目的，本研究採「不等組實驗組控制組前後測設計」。其中實驗組學生除原有公民科或三民主義科之學習活動外，並輔以一學期（自 2001 年 9 月至 2002 年 1 月）的「公民養成方案」的教學；控制組學生則維持原有之公民科或三民主義科之教學，以做為對照。

本研究之重要發現為（1）參與「公民養成方案」的學生，在公民技能、政治興趣及承擔公民權利與義務等公民性方面，顯著優於未接受「公民養成方案」的控制組學生；（2）教師教學經驗、班級氣氛，學生考取大學的信心，以及收看收聽各種新聞媒體的頻率，與「公民養成方案」的實施成效有顯著正相關；（3）所有參與實驗教學的教師對「公民養成方案」都持積極正向的態度，並表示有意繼續實施該課程。

基於上述研究發現，本研究最後提出對公民教育的啓示。

關鍵詞：公民養成方案、公民技能、公民性、階層共變數分析