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Empowering Teaching for Participatory Citizenship: Evaluating the Impact of Alternative Civic Education Pedagogies on Civic Attitudes, Knowledge and Skills of Eight-grade Students in Mexico

In spite of the fact that public schools were established to prepare students for citizenship, the alignment of teaching practice with this goal is poor. In part, this is because the knowledge base about the efficacy of curricular and pedagogical approaches in supporting specific civic outcomes is limited, as is our knowledge about the extent to which civic learning is constrained to pedagogical objectives specifically taught vs. the generalizability of what is learned to other civic outcomes. In this paper we evaluate the impact of three interventions aimed at training teachers to use a specific pedagogical approach (i.e. lesson planning, participatory learning, and a combination of both) to teach civic education to low-income eight-grade students in Nuevo Leon, Mexico. These pedagogies aimed at improving teacher practices used to teach the civic education curriculum and fostering a specific set student's civic skills. Using data from a cluster randomized experimental design at the classroom level, we found positive impact of the three civic education pedagogies on teacher practices reported by students. We also found statistically significant impacts on a range of students' civic dimensions explicitly targeted by the curriculum. Finally, we found limited or no evidence of transfer of effects to civic dimensions not explicitly targeted in the curriculum.

1 Introduction

The need to equip all people with civic competencies is one of the foundational ideas of the public school. In democratic societies, it is generally expected that students will learn at school to develop agency and autonomy, a sense of control, self-efficacy and responsibility over their lives, and the capacities to come together with others to address problems of common concern and to participate politically.

An extensive body of scholarship reflects this long standing purpose of schools to help students develop civic competency. Two related strands of this scholarship

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include the definition of the dimensions of democratic competency, generally defined normatively, drawing on ethics and political philosophy (Gutmann, 1987; Levine & Higgins-D'Alessandro, 2010). Complementing these normative views are empirical studies on the effects of civic education. In the first strand, the definition of the kind of civic education is based on the definition of what kind of democratic citizen, a contested notion. For instance, John Dewey, a seminal contributor to a philosophy of democratic education, argued for social interactions and experience in school as very important formative experiences of democratic dispositions (Dewey, 1916). A second more recent strand of scholarship has focused on the kind of competencies that citizens need to engage with others in increasingly culturally diverse societies (Howe, 1997) and on the skills that subdominant groups need to be more equitably represented in the political process (Garcia-Bedoya, 2005).

Civic education approaches vary, including those that focus on helping students gain knowledge of specific subject matter, such as history or social studies (Naemi & Junn, 1998), and those that emphasize student experiences and pedagogy as important in forming democratic dispositions (Levine, 2007). Three cross-national comparative studies on civic and citizenship education conducted by IEA[1] documented a wide range of approaches to civic education and highlighted the importance of pedagogical practices as predictors of both civic attitudes and skills (Ainley, Schulz & Friedman, 2013). However, most of this scholarship is based on correlational designs which do not allow making causal inferences about the contribution of particular education

interventions to the development of civic skills and knowledge.

Current scholarship sees 'civic literacy' as the result not just of knowledge of facts which are relevant to understand the functioning of democratic institutions but of skills in applying this knowledge to interpreting situations. For example, the ability to interpret a political message and make inferences about the intents and interests of its source or to be able to determine when specific situations violate basic democratic rights. In addition, civic literacy includes dispositions to act in ways congruent with democratic interactions.

As with other knowledge and skills, civic competency is the result of influences inside as well as outside the school, and isolating those is often problematic. Recent research suggests that schools have greater influence on civic competency than previously acknowledged (Niemi & Junn, 1998; Kahne & Sporte, 2002; Garcia-Bedolla, 2010), in contrast to earlier studies highlighting the role of socioeconomic and family background (Abramowitz, 1983; Achen, 2002). In practice, disentangling the relative contributions of social background of families and school influences is extremely difficult in settings where these social institutions have focused on political socialization over centuries.

A related and insufficiently addressed issue in the study of civic education, concerns theorizing and testing the way in which various formative dimensions of democratic competency relate to each other, to educational interventions, and to civic outcomes. Of special interest is the question of 'transfer', examining whether and under what conditions the knowledge gained in particular educational settings, such as a curriculum, is retained and translates into skills to solve problems not directly linked to what was learned (Pellegrino & Hilton, 2012). Transfer across dimensions of democratic competency is often assumed but has been rarely explored. For instance, an intervention focused on promoting tolerance and acceptance of gender differrences might help students become more tolerant of other forms of difference, such as race, religion or sexual orientation.

The questions about transfer of skills and the related concept of 'deeper learning', are identified as one of the central concerns with the science of education for the 21st century. As stated in a recent report of the National Research Council: "If the goal of instruction is to prepare students to accomplish tasks or solve problems exactly like the ones addressed during instruction, then deeper learning is not needed… When the goal is to prepare students to be able to be successful in solving new problems and adapting to new situations, then deeper learning is called for" (Pellegrino & Hilton, 2012; p. 70).

Societies experiencing political transitions to democracy are particularly adept contexts to investigate the determinants of civic skills, given that different social institutions adapt at varying speeds practices aligned with democratic values. For instance, at the beginning of the 2000s, Mexico underwent a political transition as the party that had ruled the country for seventy years was voted out of office. Along with this transition, the country also underwent a reform of its civic education curricula. Given these political and curricular discontinuities, Mexico represents an interesting case study in which empirical work can inform the knowledge about the efficacy of various curricula and pedagogies in developing particular dimensions of civic competency. In this paper, we study the impact on teacher practices on a range of civic dimensions of three pedagogical appro-aches to complement the eight-grade (ages 13-14) civic education curriculum in Nuevo Leon. We also explore the transfer to civic skills not directly targeted by these three interventions.

The rest of the paper is organized as follows. In the Context section, we describe the context of the study. Then, in the Research Design, we describe the research site, dataset, and measures. We also explain the metho-dology used to assess the impact of the different interventions and comment on the limitations of the study. In the Results section, we present and describe the results. Finally, in the Discussion and Conclusions we discuss the main findings of the paper and comment on implications for the literature of civic education'.

2 Context

In 2000, Mexico experienced a political transition when power was transferred from the party which had ruled for seven decades (Institutional Revolutionary Party, or PRI) to a different party (National Action Party, or PAN). As part of the institutional changes immediately preceding and following the political transition repre-sented by the presidential elections of 2000, a number of reform initiatives gave greater priority to civic education in the country. These included revising the curriculum to align it with democratic values, producing new textbooks and investing in the professional development of teachers.

Until 1999, civic education was only taught in grades 8 and 9, with an exclusive focus on the role of government and legal institutions, but no discussion of democratic participation by citizens. In 1999 the curriculum reform introduced the subject of civic and ethic education as part of social studies at the primary and secondary levels. The development of the curriculum and national textbooks spanned over a decade. Civic and ethic education became a separate subject in 2006 for grades 8 and 9, and in 2009 for grades 1 to 6. It is not taught in 7th grade. The new subject had the purpose of developing students' democratic competencies and skills, giving more emphasis to the role of school experiences as part of the development of citizenship (Reimers & Cardenas, 2012). In particular, the new curriculum aimed to develop the following competencies: (1) self-knowledge and self-care, (2) self-regulation and responsible exercise of freedom, (3) respect and valuing of difference, (4) sense of belonging to the community, nation and humanity, (5) peaceful resolution of conflicts, (6) social and political participation, (7) abiding by the

rule of law, and (8) understanding and valuing of democracy.

In addition to the institutional changes resulting from the democratic transition, a factor motivating interest in civic education among education officials in Mexico was the perception of growing levels of violence associated with the criminal activity of drug cartels. The rise in crime and violence created a context in which the efforts of schools to develop democratic competencies were somewhat at odds with the cultural practices experienced by students among peers and family. Again, this provided a unique opportunity to examine whether schools can teach knowledge and values against the grain of other social values and practices.

Despite the reform in the curriculum and civic education efforts in Mexico, there is limited evidence that changes in teacher practices and school culture took place in the ways that would benefit student's civic skills and knowledge. Thus, in this paper, we study the impact on teacher practices and student's civic skills of three pedagogical approaches—lesson planning, participatory learning, and a combination of both—to teach the new civic education curriculum. Specifically, we examine (1) whether there is an impact of the teaching training interventions on teacher practices, reported by students; (2) whether there is an impact on the civic skills and knowledge dimensions explicitly targeted by these interventions; and (3) whether there is transfer of impact to other civic skills and knowledge dimensions not targeted by these interventions.

3 Research design

To assess the impact of three pedagogical approaches to civic education, this study (Note 1) compared teacher practices, as well as civic skills and knowledge of groups of lower-secondary school students attending public school in the outskirts of the city of Monterrey (Note 2), Mexico. We used as instrument a self-administered questionnaire based on a broad conception of civic competency, which would allow an examination of transfer; that is, of the extent to which gains were observed in civic dimensions not explicitly targeted in the curriculum or pedagogy.

The study was conducted during the academic year 2008-2009. A group of teachers of civic education in a randomly selected sample of schools in the greater Monterrey area were invited to participate in the study. Then, schools were randomly selected from the roster of all morning-shift schools in the greater Metropolitan area of Monterrey. All those approached accepted the invitation to participate. Within each school, entire 8th grade classrooms were randomly assigned to one of three conditions:

a. *Lesson Planning (LP)*: Teachers were assisted in developing and implementing high quality lesson plans reflecting the official civic education curriculum. The focus of this treatment group was to help teachers develop pedagogical strategies to cover the curriculum, teaching units extending over several days with a variety of instructional materials and approaches to engage students. This condition of treatment was designed to assess the impact of the existing curriculum and instructional materials with teacher professional development and support for lesson planning.

b. *Participatory Learning (PL)*: Teachers were instructed in the use of a participatory methodology (Note 3) where students had to select a challenge in the community and develop an action project to address it, using this as the anchor of the civic education curriculum. This condition was designed to assess the impact of an alternative pedagogical approach combining service learning, project-based learning and experiential learning.

c. *Lesson Planning and Participatory Learning (LP & PL)*: Teachers were assisted in developing and implementing high quality lesson plans AND instructed in the use of participatory learning. This condition was designed to assess the impact of combining treatments (a) and (b).

In addition, in each of the selected schools, students in 9th grade also filled in the questionnaire at the beginning of the school year. This group was meant to assess the impact of the civics curriculum and existing instructional materials without intentional support in teacher professional development (business as usual) and to serve as a control group in this study. For logistical reasons about 13% of the students were only given the pre-test in January of 2009 rather than September 2008.

In schools that had at least three different teachers and sections of eight grade, each of them was randomly assigned to one of the treatments described in this study. When schools had fewer than three sections/teachers, conditions of treatments were randomly chosen and assigned to each of the sections. Also, when schools had more than one section of ninth grade all of those students were surveyed. It is important to note that it was not possible to include a control group in each school. In total more than one treatment was implemented in 18 of the 39 schools in the study.

3.1 The intervention

The design and implementation of the intervention involved the following steps. Initially staff from Via Educacion and Universidad Iberoamericana designed two training manuals (one for each treatment A and B), which presented innovative teaching strategies linked to the objectives of the Mexican national curriculum for the subject of Civics and Ethics. Manuals were created to strengthen the practice of teaching, learning of teachers, and the development of citizenship competencies in their students. Also, staff from Via Educacion designed and administered a ten-hour teacher education training program in which teachers participated at the outset of the project. For the continuous professional development, staff from OrganizationA developed and implemented a follow-up program to support the implementtation of each treatment. This program was taught in 10

monthly sessions of 5 hours. About 90% of the teachers attended each monthly session.

To guarantee that the intervention was being implemented properly, staff from Via Educacion monitored the field implementation. To do this, they trained 90 undergraduate psychology and education students of the University of Monterrey who had to visit schools every week and were previously trained to monitor the implementation of the program at schools.

3.2. Sample

The initial sample included 60 teachers in eighth grade and 20 teachers of ninth grade from lower-secondary schools in Monterrey, Mexico. Of the 39 schools, 10 were technical focused schools and the rest were general track schools. Nevertheless, both type of schools follow the same civic and ethic education curriculum. In total the 2,608 students participated in the study.

Table 1: Dimensions assessed by the study

Targeted	Teaching practices	Civic pedagogical practices
		General pedagogical practices
		Discussion of civic topics
		Opportunity for student participation
		Democratic practices in school
	Civic attitudes, knowledge and skills	Attitudes towards gender equity
		Tolerance to different people
		Trust in institutions
		Tolerance towards breaking the norm
		Interpersonal communication skills
		Civic knowledge and skills
		Pedagogical efficacy of the school
		Participation of student in school
		Intentions of political & social engagement
		Political & social engagement in the community
Not targeted	Civic attitudes, knowledge and skills	Future orientation
		Trust in close people
		Trust in people in general
		Trust in relatives
		Attitudes towards corruption
		Attitudes towards authoritarianism
		Attitude towards the role of government regarding media
		Civic efficacy confronting discrimination
		Perception of respect of youth rights
		Interest in politics

All teachers remained in the program for the entire duration of the study, except one who went on maternity leave and who was replaced by her substitute. The same number of students in treatment groups completed the pre and post survey, but 663 students in the control group completed only the pre survey. Due to logistical problems we were unable to match pre and post-surveys at the student level or to track in and out of school transfers of individual students during the academic year. To assess the overall comparability of the groups

before and after the study we conducted a series of statistical tests of the differences in the social composition of the groups, finding them equivalent before and after the study and across groups.

In Table 1, we present the means and standard deviations of individual and home characteristics for each group at baseline. We can observe that 40% of the students are male, average age is 13.5 years old, and 2% to 3%, speak an indigenous language. On average, participants have 2 siblings, have families of 5 members, and 89% reported living with both parents. They have on average, 40 books in their homes and expect to complete a college education. Their parents, on average, have a secondary education—equivalent to nine years of schooling.

3 Instruments

Students in the treatment groups were given the questionnaire at the beginning (September 2008) and end (July 2009) of the academic year in which the teachers taught the course of civic education, following one of the three above mentioned conditions. The questionnaire included 197 multiple option questions assessing several dimensions of civic knowledge and attitudes. These included selected items from the second and third International Civic Education Study developed by the International Association for the Evaluation of Educational Achievement (IEA), as well as from the World Values Survey, a National survey of youth in Mexico, and several surveys of political attitudes in Mexico. The survey included also items assessing socio-demographical background of the students. The instrument was piloted with a small sample of students not participating in the study; minor modifications to content, language and format were made as a result of this pilot.

The questionnaire items covered the constructs presented in table 1, with each dimension including two or more survey questions. We divided dimensions into three categories: teacher practice, students' skills targeted by the interventions, and students' skills not targeted by the interventions.

For each of these dimensions a summary indicator was constructed using principal component analysis (Note 4), standardized to a 0-100 scale. That is, an index close to 0 indicates a low fulfilment of the dimension, while a value close to 100 indicates a high achievement of the dimension under analysis. Since each dimension integrates several items in the questionnaire, this poses the limitation that only students who had answered all the items within each indicator were included for that indicator. Thus, the composition of the sample may vary somewhat across the different dimensions. To assess this possible threat to validity, we conducted a series of statistical tests and found no differences in baseline characteristics of the sample across dimensions. In addition, we conducted the analyses using a dataset in which we had imputed missing values and found no differences in the overall findings. For simplicity reasons

we only report the analyses on the original dataset but   results are robust to different correction strategies.

Table 2: Mean values and standard deviations of students' characteristics at baseline

	All	Lesson Planning	Participatory Learning	Planning and Participation	Control
Male	0.403	0.385	0.428	0.354	0.436
	(0.491)	(0.487)	(0.495)	(0.479)	(0.496)
Age	13.59	13.34	13.37	13.32	14.29
	(0.684)	(0.536)	(0.553)	(0.503)	(0.581)
Indigenous language	0.028	0.025	0.024	0.028	0.035
	(0.165)	(0.156)	(0.154)	(0.165)	(0.183)
Number of siblings	2.29	2.25	2.21	2.23	2.45
	(1.570)	(1.424)	(1.392)	(1.553)	(1.836)
Household size	5.38	5.33	5.23	5.53	5.44
	(1.892)	(1.800)	(1.679)	(2.037)	(2.013)
Number of books	42.31	42.80	45.56	39.97	40.79
	(49.749)	(50.558)	(51.953)	(46.957)	(49.332)
Expected level of education	5.86	5.84	5.95	5.82	5.82
	(0.925)	(0.928)	(0.870)	(0.981)	(0.917)
Mother's education	4.30	4.29	4.63	4.16	4.13
	(1.374)	(1.296)	(1.410)	(1.389)	(1.330)
Father's education	4.52	4.60	4.86	4.32	4.34
	(1.448)	(1.327)	(1.383)	(1.499)	(1.481)
Observations	2,603	517	695	733	663

Note: standard deviations in parentheses. Male and indigenous language are binary variables so their mean value should be interpreted as a proportion.

3.4. Data analysis

To address our three research questions, given that assignment to treatment was random, we use an Ordinary Least Squares (OLS) regression model with random effects for classrooms classroom and clustered standard errors, controlling for some baseline covariates:

$$\text{Dimension} = \beta_0 + \beta_1 T_{LP} + \beta_2 T_{PL} + \beta_3 T_{LP \wedge PL} + \gamma X + \varepsilon$$

where, the outcome Dimension indicates the standardized value of each assessed Dimension for each student; TLP represents the dummy variable for student i in a classroom assigned to Lesson planning group; TPL represents the dummy variable for student i in a classroom assigned to Participatory Learning group; TLP&PL represents the dummy variable for student i in a classroom assigned to the combined treatment group (LP & PL); and X designates the vector for student and school baseline characteristics. These covariates include: male (1 if male; 0 otherwise), age (in years), indigenous language (1 if indigenous; 0 otherwise), household size (number of members), number of books (number), parents' education (level), and whether the student attends a general or a technical school (1 if technical; 0 otherwise).

In this case, estimates for each treatment should be interpreted as impact with respect to the control group. For assessed outcome, additional hypothesis tests are conducted to test whether there is a significant statistical difference between the treatments.

An important assumption to using this methodology is that, given that assignment to treatment conditions was random, experimental groups are statistically equivalent at baseline. To test the equivalency of groups, we conducted a series of t-tests. In table 3 we show that there are few significant differences (at 5% level) between the groups, except for the parents' level of education in some cases. However, in absolute terms the difference is small and represents about 1.5 years of lower secondary education. In addition, as would be expected, students in the control group, who are attending ninth grade, are on average a year older than the students in the treatments groups (eight grade). Overall, tests suggest that random assignment of classes to conditions succeeded in creating comparable groups of students across treatments, and that at baseline treatment groups are comparable to the control group. In the analysis, we control for these different characteristics of students to increase precision and avoid any potential bias that might be created by its omission.

Table 3: T-statistics and p-values for the differences at baseline between the experimental groups

	LP vs Control	PL vs Control	LP&PL vs Control	LP vs PL	LP vs LP&PL	PL vs LP&PL
Male	-1.76	-0.29	-3.02	-1.50	1.09	2.77
	(0.080)	(0.774)	(0.084)	(0.133)	(0.276)	(0.006)
Age	-29.00***	-29.69***	-32.08**	-0.91	0.65	1.69
	(0.000)	(0.000)	(0.000)	(0.363)	(0.515)	(0.092)
Indigenous language	-1.00	-1.11	-0.71	0.04	-0.33	-0.39
	(0.316)	(0.265)	(0.478)	(0.966)	(0.745)	(0.694)
Number of siblings	-1.49	-1.62	-1.86	-0.01	0.30	0.34
	(0.136)	(0.106)	(0.064)	(0.990)	(0.768)	(0.736)
Household size	-0.13	-0.49	0.82	0.34	-0.94	-1.34
	(0.897)	(0.627)	(0.414)	(0.732)	(0.350)	(0.180)
Number of books	0.67	1.71	-0.31	-0.91	0.97	2.04**
	(0.500)	(0.088)	(0.760)	(0.361)	(0.334)	(0.041)
Expected level of education	0.48	2.67**	0.02	-1.98**	0.45	2.54**
	(0.631)	(0.008)	(0.987)	(0.048)	(0.654)	(0.011)
Mother's education	1.88	5.98***	0.36	-3.71***	1.47	5.36***
	(0.060)	(0.000)	(0.720)	(0.000)	(0.141)	(0.000)
Father's education	2.71***	5.79***	-0.22	-2.79***	2.81***	5.77***
	(0.007)	(0.000)	(0.829)	(0.005)	(0.005)	(0.000)

*** p<0.01, ** p<0.05, * p<0.1

p-values of the t-statistic in parenthesis

4 Results

To examine the effect of the pedagogical treatments on teacher practice we describe the characterizations provided by students of the practices of their teachers in four dimensions, and examine how those differ by treatment group. To estimate the impact of each treatment group, as compared to the control group, on the pedagogical experiences of students in civic education, we conducted ordinary least square (OLS) analyses, with random effects for classrooms. We assess separately the effect of each treatment on each reported dimension. Below, we present the impact of each treatment on different sets of dimensions categorized to address each of the research questions. Given that the estimates are expressed in terms of units of each index, for comparison purposes and to facilitate interpretation we then transformed them to be expressed in terms of standard deviation of the respective dimension in the pre-questionnaire. These are robust differences in excess of a third of a standard deviation for all the dimensions where the differences are significant.

4.1. Effects of the intervention on teacher practices

In table 4, the coefficients for each treatment group indicate the average increase in each specific dimension index associated to participating in that group, relative to the control group (Note 5). The three treatments examined in this study intended to influence these four dimensions of teaching practice, except for lesson plans

which did not intend to influence democratic experiences in school.

We observe statistically significant effects, at 5% level, of all the treatments on the dimensions of *civic pedagogy, discussion of civic topics*, and *student participation in school governance*. The differences for general pedagogical practices and civic school practices are in the expected direction, positive, but significant only for the Participatory Learning (PL) group for *pedagogical practices*, and for the group combining both treatments for *School practices*. That is, students in the three treatment groups reported significantly different experiences relative to those in the control group, for the analyzed dimensions. However, there were no significant differences across the three treatment groups. This implies that each of the treatments succeeded in significantly improving teacher practice.

In table 5, we report the effects of each treatment in terms of standard deviations. For the *civic pedagogical practices* and for *discussion of civic topics*, students in all treatment groups report an increase of about 0.25 standard deviations (SD) above students in the control group. For *opportunity for student participation* the differences are between 0.21 and 0.33 standard deviation according to the treatment. It is to be expected that, since the treatments emphasized teacher practice in the classroom rather than in the school, there would be greater effects at this level.

Table 4: Effects of the treatments on different dimensions of Teaching practices

	Pedagogical Practices	Pedagogical practices oriented to civic education	Discussion of civic themes at school	School practices oriented to civic education	Student participation in school decisions
Constant	73.65***	71.03***	101.7***	93.47***	63.70***
	(10.850)	(10.740)	(13.850)	(13.870)	(23.320)
Lesson Planning	3.485	**5.637***	**5.522**	0.0154	**7.314**
	(3.093)	(1.988)	(2.479)	(2.150)	(3.449)
Participatory Learning	**4.656***	**5.642***	**6.798***	-2.801	**9.129**
	(1.680)	(1.954)	(2.152)	(2.120)	(3.743)
Planning and Participation	2.885	**7.407***	**6.354***	**3.985**	**11.46***
	(2.392)	(2.017)	(2.224)	(1.927)	(3.378)
Control Variables	α	α	α	α	α
Ho: $\beta_{LP} = \beta_{PL}$	*0.642*	*0.998*	*0.575*	*0.31*	*0.622*
Ho: $\beta_{LP} = \beta_{LP\&PL}$	*0.83*	*0.44*	*0.721*	*0.109*	*0.235*
Ho: $\beta_{PL} = \beta_{LP\&PL}$	*0.397*	*0.432*	*0.807*	*0.007*	*0.499*
Ho: $\beta_{LP} + \beta_{PL} = \beta_{LP\&PL}$	*0.137*	*0.181*	*0.052*	*0.034*	*0.318*
Observations	2,062	2,076	2,045	2,037	2,093

*** p<0.01, ** p<0.05, * p<0.1
Cluster-robust standard errors in parentheses.
P-values of the hypothesis test of no difference between treatments in italics

Table 5: Summary of the effects of each treatments on different dimensions of Teaching practices, expressed in terms of standard deviations

	Pedagogical practices oriented to civic education	Pedagogical Practices	Discussion of civic themes at school	Student participation in school decisions	School practices oriented to civic education
Lesson Planning	0.185	**0.279***	**0.220**	0.001	**0.215**
Participatory Learning	**0.248***	**0.280***	**0.270***	-0.126	**0.269**
Planning and Participation	0.154	**0.368***	**0.253***	**0.179**	**0.337***

*** p<0.01, ** p<0.05, * p<0.1

While it is not surprising to observe effects on *civic pedagogy* (around 0.25 SD), as all treatments provided teachers support to use a wider pedagogical repertoire, it is somewhat unexpected to see effects on *discussion of civic topics*, a dimension which includes discussions of different forms of discrimination; topics already included in the national curriculum and in the textbooks. These findings suggest that enhancing subject specific pedagogy transfers into greater efficacy in covering the intended curriculum. That is, treatments focused on teacher classroom practice transfer also into increased students' experiences of participation at the school level, including student elections, representation in school bodies, input in academic projects and disciplinary norms. This implies that students transfer the skills gained in the classroom into other domains of their school experience.

It is expected that for the dimension of *general pedagogical practices* the only significant effects (0.25 SD) are in the project-based Participatory Learning treatment group since the items in that dimension focus

mostly on projects outside the school, like students working in teams and preparing presentations; all areas that were specifically targeted by such intervention. Somewhat unexpected was that the combined treatment group, where teachers engaged students in similar activities, did not have a significant effect. This fact proposes that there might be tradeoffs as teachers balance the demands of increasingly complex instructional approaches.

It is encouraging to find that in all treatments, teachers were able to provide increased *opportunities for student participation*, even for the Lesson planning group which did not have that specific emphasis. This confirms that to some extent the teacher training interventions were able to change the classroom dynamic.

Overall, we do not observe any significant difference between the effects of the treatments suggesting that treatments play an important role in changing teacher practices but the specific approach in which teachers are trained does not matter.

4.2 Effects on student attitudes, knowledge and skills targeted by the intervention

In this section we examine the impact of the treatments on various dimensions of civic attitudes, knowledge and skills of the student—as measured in the post-questionnaire—that were specifically targeted by any of the treatments. In table 6 we present the estimates of the average effects of the treatments on each of the targeted dimensions, relative to the control group. In the bottom panel we present the associated p-values of additional hypotheses tests conducted to contrast the statistical significance of differences between the various treatment groups.

Table 6: Effects of the treatments on different TARGETED dimensions of student's civic attitudes, skills and knowledge

	Attitudes towards gender equity	Tolerance to different people	Trust in institutions	Tolerance towards breaking the norm	Interpersonal communication skills	Civic knowledge and skills	Pedagogical efficacy of the school	Participation of student in school	Intentions of political & social engagement	Political & social engagement in the community
Constant	60.72***	67.90***	82.01***	110.2***	92.07***	90.96***	24.29*	81.63***	49.58***	47.59***
	(11.610)	(14.360)	(17.210)	(13.780)	(12.890)	(12.460)	(12.570)	(14.940)	(13.860)	(8.486)
Lesson Planning	**10.24***	1.443	**-6.691**	-1.994	1.396	0.832	2.394	**4.553***	0.71	0.496
	(2.847)	(1.934)	(3.343)	(1.874)	(2.309)	(2.216)	(2.079)	(2.515)	(1.227)	(1.758)
Participatory Learning	**10.63***	1.616	**-6.472**	-0.0328	**2.937***	2.054	**6.363***	**5.941***	1.379	**2.323***
	(2.326)	(1.853)	(2.739)	(1.542)	(1.669)	(1.691)	(2.461)	(2.019)	(1.369)	(1.288)
Planning and Participation	**8.983***	0.5	**-5.872**	-0.11	**3.411**	2.233	3.776	**6.113***	2.009	1.791
	(2.557)	(2.069)	(2.927)	(1.280)	(1.578)	(2.049)	(2.352)	(2.139)	(1.680)	(1.444)
Covariates	α	α	α	α	α	α	α	α	α	α
Ho: $\beta_{LP} = \beta_{PL}$	*0.841*	*0.925*	*0.927*	*0.298*	*0.52*	*0.588*	*0.071*	*0.572*	*0.59*	*0.187*
Ho: $\beta_{LP} = \beta_{LP\&PL}$	*0.495*	*0.664*	*0.735*	*0.241*	*0.386*	*0.567*	*0.49*	*0.527*	*0.403*	*0.388*
Ho: $\beta_{PL} = \beta_{LP\&PL}$	*0.223*	*0.545*	*0.752*	*0.958*	*0.767*	*0.921*	*0.226*	*0.924*	*0.697*	*0.61*
Observations	2,041	2,052	1,986	2,030	2,015	2,059	2,121	2,036	1,964	2,067

*** p<0.01, ** p<0.05, * p<0.1
Cluster-robust standard errors in parentheses. P-values of the hypothesis test of no difference between treatments in italics

Table 8: Summary of the effects of each treatments on different TARGETED dimensions of student's civic attitudes, skills and knowledge, expressed in terms of standard deviations

	Attitudes towards gender equity	Tolerance to different people	Trust in institutions	Tolerance towards breaking the norm	Interpersonal communication skills	Civic knowledge and skills	Pedagogical efficacy of the school	Participation of student in school	Intentions of political & social engagement	Political & social engagement in the community
Lesson Planning	**0.502***	0.063	**-0.260**	-0.086	0.075	0.115	0.068	*0.195*	0.037	0.034
Participatory Learning	**0.521***	0.071	**-0.252**	-0.001	*0.157*	**0.305**	0.089	**0.255***	0.071	*0.159*
Planning and Participation	**0.440***	0.022	**-0.228**	-0.005	**0.183**	0.181	*0.164*	**0.262***	0.104	0.122

*** p<0.01, ** p<0.05, * p<0.1

Trust in institutions is a dimension targeted by the curriculum, and to some extent by the interventions, although not as specifically as tolerance or knowledge. As we see in Table 6, there is a negative impact on institutions in the order of 0.25 standard deviations. Although troublesome, this result might be result of the combination of greater knowledge of the role and responsibilities of governmental institutions with what their perception of the current context when assessing their performance.

In tables 6 and 8, we see that the Lesson planning (LP) approach has no significant effect, as compared to the control, on any other dimension. It only shows weak evidence of increase on students' participation in school. Although civic knowledge and skills, and pedagogical efficacy of the school which are specifically targeted by

this treatment have estimates that go on the expected direction there are not significantly difference from the control or the other treatments.

We observe that the participatory learning (PL) approach has a positive impact on the dimensions of civic knowledge and skills and on fostering student participation in school, compared to the control group. Their effects are on the magnitude of 0.31 and 0.26 standard deviations, respectively (0.26 SD). This treatment also shows marginally significant impact, at the 10% level, on the development of interpersonal communication skills and on the intention for political and social action in the community. However, there is no significant difference of the impact of this treatment, as compared to the other treatments, in any of the targeted dimensions. It is puzzling the fact that only participatory learning had impact in civic knowledge and skills, this impact was expected for all three treatments.

The combined lesson planning and participatory learning (LP&PL) methodology has a positive impact on interpersonal communication skills (0.18 SD) but not on civic knowledge and skills. The participatory learning

treatment emphasized working in teams, so it is somewhat surprising that there are only effects when it is combined with support for lesson planning. It is unsurprising that support in lesson planning alone does not impact this dimension.

4.3 Effects on student civic attitudes and skills not targeted by the intervention

Regarding the students' civic attitudes and skills not targeted by the treatments, we observe a positive effect of all the treatments on the *future orientation* of students. That is, relative to the control group, students whose teachers received pedagogical training to use any of the three approaches were more likely to make plans for one's life, trust that one will achieve personal goals in the future and that completing their studies are important. The highest effect on future orientation was found among the Lesson Planning group (0.42 SD), followed by the combined treatment (0.31 SD), and the lesson planning group (0.30 SD).

Table 7: Effects of the treatments on different not targeted dimensions of student's civic attitudes, skills and knowledge

	Future orientation	Trust in close people	Trust in relatives	Trust in people	Attitudes towards corruption	Attitudes toward authorita-rianism	Attitudes of government toward media	Civic efficacy	Perception of respect of youth rights	Interest in politics
Constant	76.77***	99.73***	106.7***	86.37***	57.97***	31.99**	62.58***	97.60***	14.27	72.21***
	(17.150)	(12.070)	(12.630)	(16.130)	(15.170)	(13.700)	(16.060)	(10.940)	(17.020)	(15.300)
Lesson Planning	**8.976****	-1.798	**7.653***	**-3.092***	-1.749	-1.699	2.32	1.203	-0.56	-0.0867
	(4.156)	(1.748)	(4.084)	(1.829)	(1.582)	(1.363)	(1.592)	(2.237)	(1.728)	(1.883)
Participatory Learning	**6.375****	0.00751	**5.024***	**-4.341****	-0.531	-1.52	0.768	1.58	1.247	-1.568
	(2.548)	(1.255)	(2.652)	(1.540)	(1.247)	(1.300)	(1.875)	(1.439)	(1.954)	(1.562)
Planning and	**6.584****	1.024	**6.122****	-2.487	0.982	-1.29	0.312	**2.911***	-0.119	-1.397
Participation	(3.020)	(1.404)	(2.657)	(1.886)	(1.332)	(1.484)	(1.726)	(1.589)	(1.655)	(1.539)
Covariates	α	α	α	α	α	α	α	α	α	α
Ho: $\beta_{LP} = \beta_{PL}$	*0.249*	*0.303*	*0.324*	*0.459*	*0.422*	*0.889*	*0.384*	*0.859*	*0.407*	*0.367*
Ho: $\beta_{LP} = \beta_{LP\&PL}$	*0.269*	*0.125*	*0.522*	*0.759*	*0.086*	*0.77*	*0.214*	*0.42*	*0.814*	*0.437*
Ho: $\beta_{PL} = \beta_{LP\&PL}$	*0.861*	*0.445*	*0.387*	*0.272*	*0.228*	*0.867*	*0.812*	*0.298*	*0.505*	*0.9*
Observations	2,083	2,081	2,085	2,046	2,073	1,966	2,072	2,098	2,091	1,825

*** p<0.01, ** p<0.05, * p<0.1

Cluster‐robust standard errors in parentheses. P-values of the hypothesis test of no difference between treatments in italics

In tables 7 and 9, we observe no impact in *trust in close people* at school. However, we do find a positive impact (0.30 SD) of the combined treatment on the *trust in relatives,* and marginally significant impact of the single treatment on that dimension. There is no significant difference between the treatments. Surprisingly, compared to the control, there is a negative impact (0.20 SD) of the participatory learning condition on the trust in

people in general. The effects of all the treatment on this dimension go in the same direction.

Other dimensions that we explore here, like civic efficacy as standing up and confronting discrimination, were not direct target of the interventions or of the curriculum so the lack of impact is expected. There was no effect on attitudes towards corruption, authoritarianism, and the role of government regarding media. The

perception of respect of youth rights and the interest in
politics were not affected by the intervention either.

Table 9: Summary of the effects of each treatments on different NOT TARGETED dimensions of student's civic
attitudes, skills and knowledge, expressed in terms of standard deviations

	Future orientation	Trust in close people	Trust in relatives	Trust in people	Attitudes towards corruption	Attitudes toward authoritarianism	Attitudes of government toward media	Civic efficacy	Are youth rights respected	Interest in politics
Lesson Planning	**0.422**	-0.087	*0.380**	*-0.137**	-0.076	-0.077	0.083	0.037	-0.022	-0.004
Participatory Learning	**0.299**	0.000	*0.250**	**-0.192***	-0.023	-0.069	0.027	0.090	0.049	-0.068
Planning and Participation	**0.310**	0.050	**0.304**	-0.110	0.043	-0.058	0.011	*0.098**	-0.005	-0.060

*** p<0.01, ** p<0.05, * p<0.1

4.4 Overall effects

In table 10, we synthesize the effects of the three
treatments compared to the control and to each other.

The sign indicates the direction of the effect (i.e. positive
or negative), and the number of signs indicating whether
the differences are significant at the 1%, 5% or 10% level.

Table 10. Direction and significance level of the effect of each treatment group

	LP vs Control	PL vs Control	LP&PL vs Control	LP vs PL	LP vs LP&PL	PL vs LP&PL
Teaching practices						
Civic pedagogical practices	+ + +	+ + +	+ + +			
General pedagogical practices		+ + +				
Discussion of civic topics	+ + +	+ + +	+ + +			
Opportunity for student participation	+ + +	+ + +	+ + +			
Democratic practices in school			+ + +			+ + +
Civic attitudes, knowledge and skills						
Targeted						
Attitudes towards gender equity	+ + +	+ + +	+ + +			
Tolerance to different people						
Trust in institutions	- -	- -	- -			
Tolerance to break norm						
Interpersonal communication skills		+	+ +			
Civic knowledge and skills		+ + +				
Pedagogical efficacy of school			+			
Participation of student in school	+	+ + +	+ + +			
Intentions of political and social action						
Political and social action in the community		+				
Not targeted						
Future orientation	+ +	+ +	+ +			
Trust in close people						
Trust in relatives	+	+	+ +			
Trust in people	-	- - -				
Attitudes towards corruption					- -	
Attitudes toward authoritarianism						
Attitudes of government toward media						
Civic efficacy confronting discrimination						
Perception of respect of youth rights						
Interest in politics						

Note: +++ positive and p<0.01, ++ positive and p<0.05, + positive and p<0.1
--- negative and y p<0.01, -- negative and p<0.05, - negative and y p<0.1

5 Discussion and conclusions

The results of this study show that teachers, when they are supported by professional development, can indeed help students develop competencies for democratic citizenship. Teacher professional development is a powerful lever to influence instruction, to some extent overriding differences between pedagogical approaches to civic education. All treatment groups demonstrated significant changes in pedagogical practices relative to the control group. There were no differences in the pedagogical changes observed between the three different treatment groups, suggesting that different interventions can have similar results.

Teacher professional development, and the subsequent pedagogical changes, result in students' gains on dimensions which are critical for democratic citizenship, most notably an orientation towards the future and equitable attitudes towards people of different genders, as well as perceived gains in interpersonal communication skills and civic knowledge and skills. Students are also more participative in school as a result of these interventions. These effects, of the order of a third of a standard deviation for future orientation illustrate that there is some transfer in civic instruction, as the particular treatments evaluated in this study did not specifically target fostering orientation towards the future. But this is the only evidence of transfer in this study, for the most part impact is only found on the dimensions which were explicitly targeted by the curriculum or by the interventions, and impact does not transfer to other dimensions. As expected, all treatments have effects at least marginally significant effects on student participation at school. However, this does not transfer into intentions of future political and social participation, or political and social action in their community. Only the Participatory learning program translates into increased community participation.

It is puzzling that only the participatory learning group produces gains in knowledge and skills in civic education, and that the combined group does not achieve gains of the same statistical significance. This superiority of the impact of the participatory learning group to the other two treatments is also observed for impact in political and social action in the community, suggesting that excessive demands for change (two new approaches) on teacher practice may produce lower results than moderate demands (a single new approach).

Teacher professional development in civic education translates into student gains in trust but only towards relatives, consistent with the fact that this was not a direct purpose of the treatments. Paradoxically, students in the treatment groups have significantly lower levels of trust in people in general and in institutions. We cannot explain how come interventions enhancing civic education could make students less trusting of strangers or of institutions, particularly government institutions, as they make them more trusting of relatives. In two of the treatment groups, participatory learning and the combined group, students had increased levels of interpersonal communication skills.

Equally interesting are the many dimensions specifically targeted by the treatments but that had no observable impact. The following were dimensions the treatment program attempted to influence, even though no effects were found: tolerance towards people and difference, tolerance to break the norms, civic efficacy in confronting discrimination, and intentions of future political engagement. The lack of effects in those dimensions is especially troubling given the very low levels of democratic competency that the students demonstrate in those dimensions.

The fact that these interventions have differential effects on multiple dimensions, which one could reasonably expect to be components of the same construct of competency for democratic citizenship, suggests that the development of each of these various dimensions is relatively independent, as formative latent variables of the construct of democratic competency, and that there is little evidence of transfer. Hence different pedagogical approaches may be needed to address each of them. For example, the development of more tolerant attitudes, except towards gender differences, is evidently not a byproduct of a rich civic education course in which students either engage with content or in problem-solving. Explicit instruction or other experiences may be necessary to help students re-examine their openness to having neighbors of a different religion, or race, or sexual orientation. Similarly, changing the fairly high levels of tolerance towards breaking the norms, or towards corruption or authoritarianism, may require direct and intentional intervenetions.

To conclude, the power of schools and teachers to prepare students for democratic citizenship is best tested in settings where this involves teaching competencies that cannot be easily gained in other social institutions. Such is the case with developing democratic skills and attitudes in Mexico, a country where the construction of a democratic culture is a work in progress, even thirteen years after the first political transition towards more competitive politics. That significant percentage of youth, who have grown up after the political transition of 2000, have attitudes and knowledge that are clearly at odds with a democratic culture underscores the fragility of the culture of democracy, and how slow the pace of social progress is when it comes to changing political culture. But that in this setting, where other social institutions still reproduce the values and practices of a less democratic recent past, teachers can succeed in helping students gain more democratic views and understandings is also indicative of the power of these relatively recent inventions to prepare students to invent a future, congruent with the revolutionary idea that ordinary people can indeed rule their destinies.

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Notes

Note 1. This study evaluated an intervention called the Civics Education Project, developed and implemented by Via Educacion, a non-governmental organization in Mexico. The implementation of the intervention and the study were funded by the Institute for Cultural Change at Tufts University and by the Ministry of Education of the State of *Nuevo Leon, Mexico.* Since its first implementation during the 2008-2009 school year and with some changes and improvements, the Civics Education Project has continued, under the leadership of Via Educacion, up to the 2011-2012 academic school year. At the same time it has been under evaluation and the Program has also grown in impact on teacher skills and student civic competencies. During these four years the project has provided training to more than 600 teachers representing about a third of civic education teachers of the Monterrey metropolitan area. A replication of this study was attempted in the city of Acapulco in the State of Guerrero, in partnership with the *Universidad Iberoamericana* of Mexico and with the Secretary of Education of that State. A State-wide teacher strike midway through that study impeded the collection of data comparable to those reported in this article and the inclusion of the results of that study in this article. We appreciate and benefited from the exchanges with our colleagues at Universidad Iberoamericana during the design of the interventions, especially Sylvia Schmelkes, Martha Chicharro, Angeles Nuñez.

Note 2. Located in the state of Nuevo Leon, a highly industrialized state, Monterrey is the city with highest per capita income in Mexico. In curriculum based educational assessments, students in Monterrey obtain some of the highest levels of achievement in the country. The education system in Nuevo Leon, and specifically in Monterrey, is considered to be high functioning, relative to the national education system.

Note 3. The methodology used in this group is called "Learning to Participate by Participating" (*Aprender a Participar Participando*). More information available at OrganizationAwebsite

Note 4. Principal component analysis (PCA) is a statistical technique used for data reduction. It reduces a number of variables into a smaller number of 'dimensions'. In mathematical terms, from an initial set of correlated variables, the PCA creates uncorrelated indices or components, where each component is a linear weighted combination of the original variables. It is important to mention that, while creating indices helps to reduce the number of variables and group them into somehow more meaningful dimensions, this grouping might hide some interesting results of the impact of the treatments on specific variables. However, we observed

that the aggregate results using indices are a good reflect of what is seen at the individual level.

Note 5. Since classrooms where randomly assigned to treatments we could, and did, have simply examined differences between groups without further control predictors. However, the additional predictors were included to refine the estimates accounting for possible differences in the assignment of students to specific classes, over which we had no control. The coefficients of both sets of regressions are similar. In this chapter we report only the estimates from the analysis in which we included covariates for student's gender, age, indigenous language and household size, number of books at home, parental education, and whether the student attends a general or a technical secondary school.

Endnote

[1] The International Civic and Citizenship Education Study (ICCS) conducted by the International Association for the Evaluation of Educational Achievement (IEA) in the late 1960s, 1996-99 and 2009.

Appendix A: **Description of the Dimensions**

In this section we describe the items contained by each analyzed dimension. For illustrative purposes we also provide some context for these items in terms of the percentage of the students that responded, as described below, in certain way. Since civic education is an explicit goal of Mexico's national curriculum, and a subject taught in every grade up to ninth grade, the responses reviewed here reflect the result of that foundation, on which the impact of the approaches investigated in this study is examined.

Dimensions of teacher practices targeted by the intervention

- *General pedagogical practices* assessed a range of practices, with a small percentage of the students responding that teachers do them always or almost always: teachers select the topics for class discussion (58%), students work in projects that involve finding information outside of school (49%), students work in teams about different topics and prepare presentations (53%), students participate in role playing and simulations (27%), teachers includes controversial topics for discussion in class (39%), students participate in community events or activities (28%).

- *Civic pedagogical practices* explored the experience of students with particular practices such as discussing in class conflicts in the community, analyze conflicts described in the news, research community challenges, examine benefits and challenges resulting from interaction of diverse cultural groups, and study the traditions of diverse cultural groups. Teaching human rights (which 84% of the students indicate happened to a great or some extent) and customs of different cultural groups (75%) are the most common practices, followed by examining benefits and challenges of cross-cultural interactions (68%), analyzing conflicts in the news (64%), discussing community conflicts (62%), and studying community challenges (54%).

- *Discussion of civic topics* included whether students had examined in school discrimination against: women (71%), indigenous groups (67%), foreigners (59%), racial discrimination (66%), religious discrimination (64%), discrimination against the poor (69%), against street children (67%), and whether they had studied the subjects of violence and abuse (75%), citizen participation (72%), gender equity (71%), dialogue and peaceful conflict resolution (72%), justice and common good (74%).

- *Democratic experiences in school* focuses on experiences of democratic participation including election of student representatives (87% do), student representation in school governance bodies (70%), student input in academic projects (56%), student input in shaping disciplinary school norms (75%), students participate in defining sanctions for those who break disciplinary norms (60%), consistent application of norms (67%), use of civic education textbook (82%), and fair treatment of students who break norms (27%).

Dimensions of student civic attitudes, skills and knowledge targeted by the intervention

- *Attitudes towards gender equity* included six items, while most students agree with the more gender equitable views, a sizable percentage holds inequitable views. For instance, 30% agree that household chores are women's work, 16% don't agree that women should participate in Congress and government equally as men, the same percentage does not agree that women should have the same rights as men, 29% think women should not participate in politics, 14% don't think women and men should receive equal pay for equal work, and 39% think men are better qualified than women to be political leaders.

- *Tolerance towards people* included responses to agreeing having as neighbors people involved in politics, from other ethnicity, poorer than you, richer than you, gay, foreigners, indigenous, living with HIV, from another religion. A significant percentage of respondents would not tolerate as neighbors politicians (40%), people of a different ethnicity (32%), people who are poorer (29%), people who are richer (34%), gays (49%), foreigners (23%), indigenous people (33%), people living with HIV (37%), or people of a different religion (22%).

- *Trust in institutions* included items such as demanding accountability of elected officials, and trust in the federal government, municipal government, courts, police, political parties and Congress. While two thirds of the students (72%) agree on the need for government accountability, a significant number do not trust the federal government (49%), teachers (19%), municipal government (45%), courts (46%), the police (40%), political parties (51%), and Congress (41%).

- *Tolerance to breaking the law* included 32% of youth say that it is silly to follow the law when most people don't, a significant proportion would agree with not paying taxes (27%), purchasing stolen goods (14%), parent hitting their children (21%), lying to obtain a benefit (14%), hitting a woman (12%), taking justice in one's hands (25%), give or take a bribe (15%), throw garbage in public places (10%) and driving under the influence (10%).

- *Pedagogical efficacy* included their views regarding the extent to which their education had prepared them to work in teams, be adaptable, solve problems, continue to learn, and analyze reality. While most students, over 85%, respond that schools had prepared them to a great or to some extent to do those things, only about half of those respond 'to a great extent'.

- *Interpersonal communication efficacy* included students views regarding whether they agreed that their education had taught them to respect those with different views (89%), value cultural and racial differences in Mexico (86%), understand the basic equality in rights among people of different gender (88%), understand their purpose in life (85%), help solve community problems (71%), understand the importance of voting in local and national elections (72%), solve and peacefully negotiate interpersonal conflicts (65%), solve and peacefully negotiate group conflicts (70%), recognize and express their own interests (80%), represent others in a group (75%), solving problems in peaceful ways (79%), dialogue with others (86%).

- *Civic efficacy* assessed whether they agreed with the statement that their education had prepared them to confront discrimination and exclusion using democratic means (69%), standing up to discriminations they witnessed and promoting the inclusion of those excluded (70%), and think about the interests of all in solving conflicts (83%).

- *Civic knowledge and skills* included several items assessing knowledge and understanding of basic concepts related to democratic politics such as purpose of democracy (14% identify the correct answer), definition of law (37%), employment discrimination (61%), purpose of multiple political parties (28%), who should govern in a democracy (14%), features of non-democratic regimes (24%), consequences of monopolies (22%), interpreting political campaign message (40%), job fairness (35%), goal of division of powers (24%), features of judicial norms (17%), conditions for participation of the national commission of human rights (43%), main political parties (62%), characteristics of democracy (34%), risks for democracy (26%), consequences of low voting participation (25%), taking justice in own hands (50%).

- *Student participation in school* examined agreement with the idea that there is value in joining others to find solutions (74% agree), students have the opportunity to share rules of the classroom (60% yes), schools improve when students elect representatives to contribute to solve problems (66% agree), positive changes result from students working together (73% agree), if students organized to share their views would help to solve problems (74% agree), working together students can have more influence than alone (68% agree).

- *Intentions of political and social action* includes long-term intentions expected voting in general elections (69%), joining a political party (36%), raising funds for a social cause (66%), organizing a petition (62%), demonstrating peacefully (49%), block transit as a form of protest (35%), discuss political issues with others (44%), write a letter to a newspaper (35%), and joining a social or political organization (41%).

- *Immediate political and social action in the community* include organizing members of community to solve a common problem (67%), contributing time to help members of community (64%), and participating in improvement of school in the community (74%).

Dimensions of student civic attitudes, skills and knowledge NOT targeted by the intervention

- *Future orientation* included three items: making plans for one's life, trusting that one will achieve personal goals in the future, and that studies are important to the respondent. While the majority of the students responses are on the side of the scale indicating agreement with the three statements, 10% to 20% are not, and those on the positive side of the scale are distributed over three different points in the scale. For example, whereas 46% of the students completely agree with the statement that they make plans for their life, followed by 19% and 13% in the next two point on the scale, 20% are on the neutral or negative end of that scale.

- *Trust in close people* who are close included responses to trusting people you work or study with, teachers, classmates and friends. Trust is greater towards friends (89%), but a significant percentage of students would not trust co-workers or school peers (21%), teachers (19%), and classmates (21%).

- *Trust in relatives* indicated that, as expected, trust is greater towards relatives (93%) or parents (91%).

- *Trust in people in general* shows a higher percentage of students who would not trust people who are poorer (37%), richer (42%), from other religion (34%) or ethnicity (39%), Mexicans in general (30%), community leaders (35%), and business leaders (38%).

- *Attitudes towards corruption* assessed agreement with public servants accepting bribes (13%), using institutional resources for their own benefit (21%), or for nepotism (39%).

- *Attitudes towards authoritarianism* assessed the agreement with the need of dictatorship in times of crisis (32%), the concentration of power in a single person as a way to promote order (34% agree), the approval of the president dissolving an oppositional congress (32% agree), and the justification dictatorships when they bring order and security (45%).

- *Attitudes towards* the role of government vis a vis media assessed agreement with government closing critical media (21%) and deciding what news can be published in order to maintain order (34%).

- *Perception that the rights of youth were respected* considered most students believed the Rights of youth are respected, particularly health (88%), education (87%) and nutrition (81%). Fewer participants saw respect for the right to express views (61%), a fair trial (57%) and not being a victim of violence (50%).

- *Interest in politics* includes views on interest in politics (45%) and how often do respondents follow political news (17% always, 46% sometimes).