Can learning beyond the classroom impact on social responsibility and attainment? An evaluation of the Children's University youth social action programme

Nadia Siddiqui, Stephen Gorard and Beng Huat See
School of Education, Durham University, UK
nadia.siddiqui@durham.ac.uk

Abstract

Disadvantaged pupils in England tend to have lower average attainment than their peers. They are also less likely to be involved in wider learning and opportunities for experience beyond the classroom walls. Approaches which support learning activities beyond the traditional classroom might assist in overcoming the persistent achievement gap of disadvantaged pupils, as well being valuable in their own right. This paper presents impact evidence of a school programme called Children's University (CU) for pupils in primary schools which combines outdoor learning activities, after-school clubs and community social action. The evaluation funded involved 1,840 year 5 pupils in 68 primary schools, randomised into treatment and waiting-list control (business-as-usual) groups. The programme was delivered for two consecutive years after which the academic and non-cognitive outcomes were re-assessed. The findings suggest that after two years of opportunity to participate in out-of-school hour activities and social action there is a link to slight progress in pupils' reading and maths performance ('effect' sizes of 0.12 and 0.15). A smaller improvement in non-cognitive outcomes of 'teamwork' and 'social responsibility' was also found ('effect' sizes of 0.02 and 0.07). The gains in teamwork and social responsibility results for disadvantaged pupils eligible for free school meals (FSM) were better than the overall figures, suggesting that this intervention may have a role to play in reducing the poverty gradient in such social 'skills'. It is only fair that wider opportunities at school are made easier for disadvantaged pupils, they may have others benefits. However, if changes in attainment alone are the primary goal, these relatively small effect sizes suggest that there will be more cost-effective routes than the one described in this paper.

Introduction

This paper presents the findings of an evaluation of whether primary pupil's academic outcomes and attitudes are improved by volunteering in social action and engagement in enrichment activities. The paper considers wider school outcomes such as attitudes, and briefly reviews prior evidence on extra-curricular and social action programmes for young children. It then presents the methods for this new study, the impact findings, some of the in-depth findings, and ends by considering the implications.

Much school-based education research concerns pupil attainment and academic outcomes, even though schools are about a lot more than academic achievement. Schools are where pupils learn how to interact with a wide range of peers and with the adult world, where pupils begin to see what society is like, who they can trust, and what they can contribute, the happiness of individuals, their preparedness for life other than work, and their general 'flourishing' (Siddiqui and Ventista 2018, Gorard and Smith 2010). There may be a set of personal qualities, influenced by education, that are important in their own right as well as facilitating pathways of success in life (Heckman and Rubenstein 2001, Brunello and Schlotter 2011, Gupta and Simonsen 2010). Examples include social and communication skills, resilience, determination, motivation, confidence, self-esteem, and self-efficacy (Brighouse 2008, Gutman and Schoon 2013, Olsson et al. 2013). The full range of such concepts are described by a variety of terms, but are here referred to as being among the 'wider outcomes' of schooling.

There is considerable evidence that schools, through their structure and processes, can influence a variety of such outcomes – including political tolerance, volunteering, and civic engagement (Fleming et al. 2014, Collado et al. 2014). But such work, including our own up until now, has been passive in

design and many of the observed differences could be due to the self-selecting nature of students in some schools and the activities therein. Can the wider outcomes from schooling be improved through interventions?

Concerns for young people's learning and character development

From the 1990s onwards a number of initiatives and programmes were introduced in England to promote citizenship among young people. Apparently these came about as a consequence of a very public debate which portrayed young people in UK as disproportionately alienated, disaffected and apathetic (Fogelman 1995, Haste 1996). This led to the establishment of the Youth Parliament campaigns by the British Youth Council, as well as activities by Community Service Volunteers and the Carnegie Young People Initiative. Citizenship lessons were also introduced in schools in response to these concerns, and these now form a part of the standard curriculum in most schools in England.

In recent years there has been concern that young people in the UK were not sufficiently engaged in civic activities, such as volunteering and social action because opportunities for such activities are rarely available in schools (Birdwell et al. 2015). The Home Office Children and Young Person boosts to the Home Office Citizenship survey showed that about half (49%) of young people aged 11-15 were engaged in some civic activities (Ockenden and Stuart 2014). Some studies suggest that other young people were put off volunteering and social action by a negative image associated with such activities and the perception by some young people that social action activities were not sufficiently inclusive or open to people from different backgrounds (Bradbury and Kay 2005). Birdwell et al. (2015) reported that pupils from fee-paying schools were more likely than those in state secondary schools to have the opportunity to take part in non-formal learning such as Scouting and uniformed group activities.

Children from disadvantaged backgrounds are less likely to participate in activities such as after-school clubs, arts and cultural events, volunteering and community based projects (Southby and South 2016). Although school itself is free, disadvantaged children and parents can still experience difficulties in paying the cost for some provision such as sports activities and after-school clubs (Farthing 2014), and this reduces the options for enrichment activities for children living below and on the threshold of poverty (Holloway et al. 2014). If participation in these activities really matters in terms of young people's achievement outcomes then these concerns need more investment and effective interventions. The cost for participation in activities that are deemed important for children's non-cognitive development is a major concern.

A nationwide survey study reported that there is wide variation in provision of out-of-school activities (Power et al. 2009). The major determinants were school geography (urban/rural), proportion of disadvantaged students and type of school. Smaller schools or those in urban areas or with fewer disadvantaged pupils were found to implement out-of-school activities more actively than those in rural areas, of larger size and with higher proportions of disadvantaged pupils. The study also identified that those who miss out from out-of-school activities are more likely to be children from traveller communities, girls from Muslim ethnic minority groups and asylum seekers. These patterns of out-of-school activities and provision are relevant for an evaluation study such as ours because we are interested in assessing the efficacy of an intervention for schools with high proportions of disadvantaged students. The evaluation described in this paper involved schools in the North of England where the schools tend to have higher proportions of disadvantaged children and attainment is also lower than the national average (DfE 2017).

There is a growing number of youth social action programmes in the UK today. Several studies have been conducted suggesting positive effects on a range of young people's outcomes, such as employability, self-esteem, and confidence. However, the evidence on the value of such wider outcomes remains very mixed. Self-esteem is not related to student dropout from school, once other factors are

accounted for (Parr and Bonitz 2015). In a systematic review of civic education, no evidence was found that civic education itself has an impact on voting behaviour or voter registration (Manning and Edwards 2014). Few actual interventions have been evaluated, and where they have, the evaluations have often not been rigorous enough to assess the impact convincingly.

For example, almost all of the studies in the review conducted by the Institute for Volunteering Research (Ockenden and Stuart 2014), looking at the impact of volunteering, youth leadership and youth social action, were based on surveys of young people who volunteered to take part in these activities and made no comparisons with those who did not. A number of the studies were cited in the review as providing evidence of "impact" even though there were no comparison groups or counterfactuals and no random allocation of participants in order to control for other factors. Two studies, one looking at the impact of Cooperative Street-Games Volunteers (Cooperative Street-Games Volunteers 2014) and one on the impact of the Youth Action Network and Centre for Social Action (Boeck et al. 2009), also did not have comparison groups, but reported that youth volunteering and social action helped develop 'social connectedness' and foster positive behaviours such as empathy, cooperation, tolerance and better understanding of other people. These are strong but unjustified causal claims. The findings were based only on a survey of the volunteers and case studies of these volunteers.

A large-scale experimental study by the Cabinet Office in the UK evaluated the impact of youth social action programmes on young people aged 10 to 20 in 73 schools (Kirkman et al. 2016). The evaluation consisted of three RCTs and one matched comparison of youth social activities from four providers. All of the programmes included an element of citizenship. Using validated questionnaire items as outcomes, the RCTs suggested positive effects from youth participation on young peoples' work and life skills, such as empathy, problem solving, cooperation, grit and resilience, sense of community and educational attitudes. In addition to the survey, the study also measured observable behaviours. One involved a job interview task where pupils' performance was assessed by experienced hirers and the other was a task where pupils were given four 50 pence pieces to decide whether they would keep the money or how much to donate to charity. The study found that compared to their non-participating counterparts, young people who participated in youth social action expressed greater interest in volunteering activities, and were more likely to be judged as employable compared to control pupils, but were less willing to donate money to charity.

Some large-scale survey-based studies have also reported the benefits of youth social action engagement in the form of community cohesion and employability (Pye and Michelmore 2016, Birdwell and Bani 2014). There are positive associations between pupils' social background, their commitment and participation rate in volunteering for social actions and their academic attainment. However, there are no robust evaluations of social action programmes at primary school level that show pupils' participation in youth social action in general has an impact on raising pupils' academic attainment. In the evaluation described in this paper, social action activities were introduced as a compulsory component in the programme, allowing us to assess the impact on pupils' academic attainment at Key Stage 2.

Children from families in a higher socioeconomic group are more likely to attend these activities. Moreover, the voluntary nature of participation in these programme lead to selection of pupils who already have higher engagement, interest levels and opportunities for extra-curricular activities (Cheung 2016). Several studies reported that the volunteering participants have higher than average levels of attendance at school, and higher levels of subsequent attainment (literacy and numeracy) than those who do not volunteer, or otherwise could not attend (Wikeley et al 2007). Several of these programme evaluations compare the volunteering participants with the non-volunteering participants which are not comparable groups. Little is known about whether these behaviours, attitudes, skills or traits can be improved and whether any improvement can lead to gains in academic attainment, non-cognitive development, or later achievement in life (Siddiqui et al. 2017, Algan et al. 2014).

Other than concerns about the designs used in prior studies there are also widespread doubts about the nature and value of some of these reported wider outcomes, and about how to assess them. For example,

is autonomy necessarily a good thing if it means ignoring expert advice? For gratitude to mean something it has to be freely given, in which case how can it be improved via an education intervention (Carr 2015)? Despite its widespread use in policy documents since 2010, it is not clear what resilience or 'grit' is. Is it asking others to accept failure (O'Brien 2014)? The same queries arise when considering a whole range of mental and personal constructs from self-esteem to aspiration (Gorard 2012). On examination, they may be considered by some to be rather sinister, or simply bland and unimpressive (Hyland 2015). In addition, it is hard to envisage how best to assess any of these constructs for an individual. In education, we might approach teachers to ask for their judgements of pupils, we might observe pupils in action and over time, provide them with tasks to perform or games to play, or ask for their self-reports (Duckworth et al. 2015). All of these approaches have some relative advantages and several disadvantages, and none is satisfactory.

It is clear that there is variation in the wider outcomes of schools, and also importantly that this variation is not nearly as stratified by socio-economic status (SES) and other pupil characteristics as attainment outcomes are (Gorard and Smith 2010). If ideas like trust, citizenship, and self-confidence are malleable (and we believe that they are) then it should be possible to provide more convincing evidence than above.

Prior evidence on Children's University itself

Children's University (CU) is a charity trust working with children in schools. The activities they offer are intended to impact on pupils' learning and attainment, a range of wider non-attainment outcomes such as aspiration, motivation and self-confidence, and some longer-term outcomes such as enhanced opportunities for subsequent employment.

The prior feasibility of the Children's University programme is suggested by various self-evaluations by CU (MacBeath and Waterhouse 2008, MacBeath 2012). Volunteers with parents able to pay for the programme who attended previous CU programmes reported high levels of satisfaction, higher levels of attendance at school than average, and higher levels of subsequent attainment (literacy and numeracy) than those who did not volunteer, or otherwise could not attend (MacBeath 2011). However, pre and post-test differences were only included for those who attended CU activities.

A longitudinal study suggested benefits from out-of-school activities (breakfast clubs, after school clubs, sports activities, music and art lessons, tuition, religious services) on children's KS2 attainment (Chanfreau et al. (2016). The study surveyed 11,762 pupils and systematically recorded details of their home and school life. Records on children's out of school activities were taken at three instances during their primary school stage. The out-of-school activities participation rate increased from age 5 to age 11. However, the findings confirm a big social income gap in the take up of after school activities. The KS2 results showed a positive association with attending out-of-school activities, but was not related to any non-cognitive outcomes.

As with the CU-sponsored evaluations, this difference is only indicative and does not suggest any causal relationship between after school-activities and outcomes. More robust evidence was clearly required when the Education Endowment Foundation funded and independent evaluation of the CU programme.

The intervention

CU organise out-of-school hours learning activities for pupils aged 5 to 14. The purpose of CU activities is to encourage learning through pupil participation and acquiring new skills and experiences different from learning in a regular classroom environment, aiming to raise pupils' aspirations, and increasing motivation for learning and higher achievement goals. As part of the programme for this trial, CU developed social action modules. The social action activities are aligned with the aims of CU that target pupils' improvement in raising aspiration, self-esteem and confidence, resilience and social skills. There are several social action activities and projects validated by CU, including charitable activity, fund raising, community work, and volunteering.

CU centres provide support and ideas to schools in planning social action activities. Pupils' participation is monitored, guided and credited in the Learning Passports by teachers and CU staff members. Pupils' participating in CU must complete 30 hours of activities in order to achieve the initial certification level, and so to graduate. Fifteen hours are non-specified extra-curricular activities and 15 hours are for activities that involve some kind of positive social action.

CU maintains a database of all activities, learning destinations and pupils' participation. Schools need to get CU staff endorsement on any new activity or learning destination which is not in the existing database. In partnership with schools, CU manages after school clubs (e.g. clubs for reading, cooking, gardening, cleaning, health and first aid, charity and fund raising), visits to local libraries, museums and learning sites, after school community days, swimming and music lessons and games learned through coaching and practice. The intervention is explained further in the process evaluation section of the paper below.

Methods

Research design

The design for our evaluation of CU was a school-level randomised control trial with two arms – treatment and control. The intervention lasted two years, and was only funded by the Education Endowment Foundation at a sufficient level to provide free activities for 20 pupils in each participating school. This caused problems for the study from the outset in terms of assuring an equivalent control group. A total of 68 participating schools were randomised to either the treatment (36 schools) or control (32). The numbers are unbalanced as the original target was to recruit 80 schools, and the developer and funder wanted to maximise the treatment schools. The control group formed a waiting-list, funded to receive the intervention later. The funder was interested in whether providing the opportunity of CU for at least some pupils in a year group had any impact beyond those actually participating. However, comparing all pupils in treatments schools with all pupils in control schools risked 'diluting' the observed impact of the intervention because the intention was that only a minority of pupils in each school (20 per school) would actually take part in the intervention. Instead, pupils in both treatment and control schools were surveyed to identify those who would be willing to take part in the intervention. The headline findings are based on all pupils in both groups who reported in the pre-test survey before randomisation that they would like to be involved in something like CU (henceforth the 'volunteers'). A comparison is also made between all pupils in all schools in both groups, although this would tend to mute the apparent 'effect' size further. Schools were encouraged to select actual participants from the volunteers at random, but could use other means as appropriate. In practice, 14 of 36 intervention schools offered the programme to the entire age cohort and subsidised the extra cost themselves, 16 schools asked children to volunteer to take part, and the others tried to maximise participation by the most disadvantaged pupils – offering places to pupils eligible for free schools meals (FSM) first.

Outcome measures

Prior attainment was based on Key Stage 1 (KS1) reading and maths scores from the National Pupil Database (NPD), and used to assess the pre-intervention balance between the two experimental groups. The headline attainment outcomes were post-intervention KS2 reading and maths scores. These scores have reasonably high face validity, and their use reduces the burden of additional testing for both schools and pupils.

An estimate of the impact on young people's wider outcomes was via a bespoke pupil survey instrument developed especially for use in trials such as this. The instrument was developed by the evaluators in co-operation with the Cabinet Office. This instrument was piloted in two schools from areas not participating in this trial, and has been used in at least four other evaluations to measure outcomes related to pupil's non-cognitive skills (e.g. See et al. 2017). The instrument comprised basic questions

about whether respondents had previously participated in any activities similar to those offered by the CU, and how keen they were to undertake such activities in the future. The pre-test results from these items were to help identify 'volunteers' in all schools, regardless of whether those schools or pupils were subsequently offered the intervention. In addition, the instrument contained a set of single-item questions scored on a scale of 1-10, covering a range of wider outcomes covering concepts including teamwork, communication, motivation, self-esteem, confidence, resilience, civic mindedness, and future intentions. These items were taken from validated instruments, provided by the Office for National Statistics, reviews of the literature, prior studies by the evaluators, or professional advice. All items in the survey had clear audit trails leading to their derivation. For example, the item on self-esteem is the one recommended for single-item use by Rosenberg (1965). All questions are single items, either as with self-esteem the one item recommended by the developer or the item with the highest loading on the purported underlying construct.

The key consideration was that the items were measurable, malleable in individuals, and deemed important by stakeholders - either in their own right or because they are linked to behavioural outcomes including attendance and participation at school. The instrument was also tested for suitability (such that all pupils could respond with minimal assistance), and as appropriate for the range of reading ages of Year 4 pupils. The questionnaire was designed with mostly pre-coded tick-boxes for ease of completion. Some items were reverse-coded to try and encourage pupils to focus on the meaning of each one. Two further items were based on short stories (vignettes) in which the socially desirable responses were not as clear as in the scaled tick-box questions. One item asked respondents about the type of occupation they might like in the future, offering a list of possible jobs.

The questionnaire took approximately 10 minutes to complete. It was designed for ease and speed of completion to encourage full responses and to prevent dropout or non-response caused by fatigue and frustration. Schools were also more likely to agree for their pupils to take the survey if it did not take up too much of their curriculum time. The administration of the post-test survey was monitored by the evaluators in case knowledge of group allocation could somehow affect pupils' performance in the test or teachers' attitude towards the test.

The pre-intervention survey results were used to assess prior balance between the groups. The headline findings, pre-selected by CU, for the non-cognitive outcomes were based on the items for *teamwork* and *social responsibility*.

Analyses

All analyses were based on intention-to-treat, meaning that cases were handled as being in the group they were randomised to, whatever happened subsequently, and pupils were followed up as far as possible even where they had moved schools. A sub-analysis was also conducted involving only those pupils eligible for free school meals. The methods of analysis depend upon the nature of the data. Differences between mean scores are based on 'effect' sizes (difference between means divided by overall standard deviation). Some of the questionnaire responses are categorical in nature and the results for these are presented as pre- and post-intervention odds ratios - representing how much more likely a pupil in the treatment group was to respond positively to any question than a pupil in the control group. The relevant data and effect sizes are presented for the pre-intervention results, post-intervention and gain scores. The headline findings are the gain scores from pre- to post-test, in order to cater for any imbalances in the initial groups. Gain scores are the computed as the difference between the pre- and post-scores for each individual. This required all scores to be standardised (as z-scores).

In order to help readers envisage how substantial and trustworthy any 'effect' size is, we also present the number of counterfactual scores needed to disturb the finding, or NNTD (Gorard et al. 2017). NNTD involves creating a counterfactual score, such as one standard deviation (of the mean of the larger group) away from the mean of the smaller group in the opposite direction to the 'effect' size. The number of these counterfactual scores (running against the finding) that can be added to the smallest group in the comparison before the effect size disappears is a standard measure of the strength of the 'effect'. NNTD

is a useful measure of the sensitivity of the scale of the *finding*s (and their variability as represented by the standard deviation used to compute the 'effect' size), taking into account the scale of the *study*. This number can be more easily calculated as the effect size multiplied by the number of cases in the smallest group. Then the number of initial cases missing data (attrition) can be subtracted from NNTD. If the result is still above zero then it means that even in the unlikely situation that all missing data were in the opposite direction to the main finding (counterfactual) the effect size would still be non-zero. This would suggest a strong finding. The larger the NNTD is, after attrition has been subtracted, the stronger the finding (Gorard et al. 2017).

The achieved sample

There were 1,000 pupils in the original Year 5 of the 36 treatment schools, of whom 670 were volunteers, and 840 pupils of whom 588 were volunteers in the 32 control schools. There was no school dropout in terms of providing the necessary data. However, six of the treatment schools withdrew from the intervention itself after receiving the training. This, coupled with the failure of CU to recruit the target of 80 schools, may be an indication of a lack of perceived appeal for the intervention. All of these schools still provided the post-intervention data. After two years, 654 (98%) of the volunteers in the treatment group and 577(98%) in the control group had KS2 maths scores, 650 (97%) treatment and 574 (98%) control had reading scores, while 633 (94%) treatment and 533 (91%) control pupils completed the follow up survey. This is very low attrition for a longer-term trial. In England during Key Stage 1 6% pupils of change schools every year, and nearly 5% change school during Key Stage 2 years (Machin et al. 2006). On this basis, the dropout in this study is far less than would be expected even if no trial had taken place. We followed pupils to their new schools where possible in order to conduct the post-intervention survey. We found 20 such pupils who successfully completed the surveys, to be included in the final analysis. We used the National Pupil Database for attainment results, and so the only missing cases are those pupils who left the maintained school sector or England.

Those pupils from the initial control group eventually missing KS2 scores have lower attainment than those missing from the treatment group, but only to the same extent as for pupils in the control group for whom there *is* KS2 data (as the treatment group was ahead at the outset, see below). There is no reason to assume that dropout is unbalanced by prior attainment (Table 1).

Table 1 – Mean KS1 scores for those in initial survey missing subsequent KS2 scores

	N	Mean reading scores	Mean maths scores
Treatment	96	16.1	16.0
Control	39	15.6	15.8

Process evaluation

The parallel process evaluation provided formative evidence on all phases and aspects of the intervention from the selection and retention of schools, through the training of teachers and CU in operation, to testing the eventual outcomes. This was used to help assess fidelity to treatment, implementation issues, and the perceptions of participants, including any resentment or resistance (Siddiqui et al. 2018). It also helped us to identify the features of successful implementation as well as highlighting potential barriers. We conducted the process evaluation in co-operation with the intervention developers and school leaders who were mainly in charge of the intervention delivery in their respective regions and schools. We made over 200 visits to the 68 schools in both groups, including to deliver, administer or collect surveys. On each occasion we took any available opportunities to talk to staff and pupils, or to observe a relevant session. In addition, we observed 12 different out-of-school activities in 10 treatment schools, attended three training events and two graduation ceremonies, and interviewed 6 intervention managers, 16 school staff members including 2 head teachers, 6 parents and 30 pupils.

The nature of the intervention is not strictly structured in terms of delivery. Regional factors play a role in the choice of activities, access to resources and the opportunities created by schools for pupils' social

action. However, standard procedures for logging the activities in the Passport to Learning allowed us a chance to see a broad range of implemented activities. The intervention managers from the participating four regions shared the data on activities followed in each school. We also collected feedback through informal interviews of the intervention managers on each school's participation level at the interim and later stages of the evaluation. This information gave us a general idea about the factors that could be a barrier to implementation of school based social action activities.

The regional CU managers were the primary contact with the participating schools so the data for pupils' attendance in the intervention activities was collected by them and shared with us for our information and analysis. Further formative data from pupils and teachers was collected by the evaluation team members. Observations were first recorded as hand-written field notes by the evaluation team member who conducted the school visit. After each visit the evaluator team member developed a report of the visit which included the detailed descriptions of the field notes, teachers' feedback and comments and details about conversations with the pupils, plus any documented collected. All visit reports were shared and read by the evaluation team members and important themes and issues were extracted and synthesised for reporting.

Evidence of impact

Headline findings

The treatment group was originally ahead of the control group in terms of KS1 scores for both and maths and reading (Tables 2 and 3). The prior KS1 'effect' sizes are +0.10 for maths and +0.16 for reading. This means that although there is also a positive post-intervention 'effect' size for both subjects, a post-intervention only analysis would be misleading. However, the post-intervention effect sizes are larger than the pre-intervention effect sizes (+0.20 and +0.25), suggesting that the intervention may have had some impact on the progress of the treatment group. This cannot be due to regression to the mean, because the treatment group already had the higher score. Therefore, the headline attainment effect sizes are based on the standardised gain scores from KS1 to KS2 for each group. The gain effect sizes are small (+0.15 and +0.12), and it is possible to conclude from these that the intervention has had a slight benefit in terms of academic outcomes. The number of counterfactual cases that would be needed to disturb the effect size in maths (NNTD) would be 87, and the NNTD for reading would be 69. Both results are therefore reasonably robust. But because these NNTD figures are of the same order of magnitude as the number of missing cases, it is still possible that the headline findings are partly created by missing data.

Table 2 - Outcomes in maths after two years, 'volunteer' pupils

Group	N	KS1 maths points	SD	Pre- 'effect' size	KS2 maths score	SD	Post- 'effect' size	Gain z- score	SD	'effect' size
Treatment	654	16.23	3.25	-	103.49	6.58	-	+0.049	0.74	-
Control	577	15.88	3.59	-	102.17	6.68	-	-0.062	0.77	-
Overall	1,231	16.07	3.42	+0.10	102.87	6.65	+0.20	-0.003	0.76	+0.15

Table 3 - Outcomes in reading after two years, 'volunteer' pupils

Group	N	KS1 reading points	SD	Pre- 'effect' size	KS2 reading score	SD	Post- 'effect' size	Gain z- score	SD	'effect' size
Treatment	650	16.44	3.67	-	103.28	8.43	-	+0.048	0.77	-
Control	574	15.84	3.97	-	101.24	7.85	-	-0.051	0.83	-

Overall	1,224	16.15	3.82	+0.16	102.32	8.22	+0.25	+0.001	0.80	+0.12

In addition to academic outcomes, there are 11 attitude responses. Of these, 'teamwork' and 'social responsibility' were pre-selected, and agreed by the developers and funders, as the headline items. As with the attainment outcomes, the treatment group was slightly ahead of the control from the outset in terms of teamwork (+0.05), but not in social responsibility (0). And this may be partly responsible for the small positive post-intervention outcomes (Table 4 and 5). Therefore, the attitude results are also presented as gain scores from pre- to post-intervention. Both groups improved in self-reported attitude to teamwork and both worsened in attitude to social responsibility. But for both outcomes the treatment group were slightly ahead in terms of progress. Given that the results were always going to be muted because not all volunteers received the intervention (and that other attitudes show progress as well), these findings may be an indication of slight benefit from the treatment.

Table 4 - Attitude to teamwork after two years, 'volunteer' pupils

Group	N	Pre-survey	SD	Pre-'effect size'	Post-survey	SD	Post-'effect size'	Progress	SD	effect size
Treatment	633	6.84	2.86	-	7.00	2.62	-	+0.09	3.43	-
Control	533	6.68	3.09	-	6.64	2.79	-	+0.03	3.82	-
Overall	1,176	6.77	2.96	+0.05	6.83	2.70	+0.13	+0.06	3.61	+0.02

Note: based on 'I can work with someone who has different opinions'

Table 5 - Attitude to social responsibility after two years, 'volunteer' pupils

Group	N	Pre-survey	SD	Pre-'effect size'	Post-survey	SD	Post-'effect size'	Progress	SD	'effect size'
Treatment	633	8.28	2.56	-	7.67	2.53	-	-0.61	3.27	-
Control	533	8.28	2.66	-	7.46	2.60	-	-0.84	3.49	-
Overall	1,176	8.28	2.61	0	7.57	2.57	+0.08	-0.71	3.37	+0.07

Note: based on 'I want to try and make my local area a better place'

The number of counterfactual cases that would be needed to disturb the effect size in teamwork (NNTD) would be 11, and the NNTD for reading would be 37. The first result is not very robust. The second is better. But because both NNTD figures are at or below the order of magnitude of the number of missing cases, it is still possible that the headline findings are partly created by missing data.

Disadvantaged pupils

As with the volunteer pupils overall, the outcomes for FSM-eligible pupils were better after two years in the CU group for both maths and English (Tables 6 and 7). And again this is at least partly because these pupils were ahead at the outset (by +0.09 for maths and +0.13 for reading). Nevertheless, the gain scores suggest a very small benefit from the intervention in maths and reading for FSM-eligible pupils.

Table 6 - Post-intervention analysis of KS2 outcomes in maths after two years, Ever FSM-eligible pupils

Group	N	KS1 maths points	SD	Pre-'effect' size	KS2 maths score	SD	'Effect' size	Gain z-score	SD	'effect' size
Treatment	219	14.89	3.01	-	100.74	6.41	-	–0.07	0.76	-
Control	278	14.58	3.74	-	99.89	6.72	-	–0.11	0.78	-
Overall	494	14.72	3.44	+0.09	100.26	6.59	+0.13	–0.09	0.77	+0.05

Table 7 - Post-intervention analysis of KS2 outcomes in reading after two years, Ever FSM-eligible pupils

Group	N	KS1 reading points	SD	Pre- 'effect' size	KS2 reading score	SD	Post- 'effect' size	Gain z-score	SD	'effect' size
Treatment	216	14.96	3.82	-	99.91	8.63	-	–0.08	0.82	-
Control	277	14.43	4.21	-	97.89	8.15	-	–0.10	0.89	-
Overall	493	14.66	4.05	+0.13	98.78	8.40	+0.18	–0.09	0.86	+0.03

In terms of both teamwork and social responsibility, the FSM-eligible pupils were ahead at the outset, and made more progress, yielding small gain 'effect' sizes (Table 8 and 9).

Table 8 - Progress in teamwork, Ever FSM-eligible pupils, two-year result

Group	N	Pre-survey	SD	Pre- 'effect' size	Post-survey	SD	Post- 'effect' size	Progress	SD	'effect' size
Treatment	206	6.43	3.35	-	6.90	2.79	-	0.47	3.68	-
Control	247	6.11	3.50	-	5.85	2.97	-	–0.20	4.07	-
Overall	453	6.26	3.44	+0.09	6.33	2.93	+0.36	0.11	3.91	+0.17

Table 9 - Progress in social responsibility, Ever FSM-eligible pupils, two-year result

Group	N	Pre-survey	SD	Pre- 'effect' size	Post-survey	SD	Post- 'effect' size	Progress	SD	'effect' size
Treatment	206	8.10	2.91	-	7.60	2.71	-	–0.53	3.68	-
Control	247	8.04	3.02	-	7.15	2.86	-	–0.92	3.95	-
Overall	453	8.07	2.97	+0.02	7.35	2.80	+0.16	–0.74	3.83	+0.10

Overall the impact findings suggest promise for both academic outcomes and a variety of non-cognitive outcomes, and for reducing the poverty gap in the non-cognitive outcomes especially. Gains were also noted in professional aspiration, generosity towards others, and unsurprisingly in charitable activity (Gorard et al. 2017).

Implementation

The participation level in CU varied across schools and seemed to be dependent on school leadership and challenges or targets faced by schools. The numbers of schools recruited was lower than planned by CU, given that schools would not pay the full cost of the programme. CU recruited 68 schools, and some showed early signs of losing enthusiasm and interest when the CU introduction workshops were conducted. Six schools from the treatment group dropped out immediately after the first training session. They had signed the MoU, so they continued to cooperate with the evaluation itself.

Ten teachers also questioned the lack of financial support or other benefits to schools for organising after-school activities, visits to learning destinations and exploring ideas and opportunities for social action. Some of the schools also showed mild resentment at the increased amount of work load that involved in monitoring pupils' participation and logging individual pupils' activities and hours spent on each activity. Not all of the control schools expressed interest in pursuing the programme once the trial was over. One teacher said:

If all children got was a 'graduation ceremony' at the end of the year, what would be the benefit for the schools and teachers to complete all the paperwork and 'force' the creation of new clubs?

Some school leads also pointed out that their schools are already engaged in social action activities, school visits to museums, libraries and historic places. Participation in CU was not considered essential for these, but rather an additional cost on staff time and engagement. Several of the participating schools already had OFSTED recognised after-school clubs that helped parents to balance work and family commitments, whilst providing pupils with study support, and offering them a broader range of experiences and interests.

However, other schools were generally keen to receive innovative ideas for after-school activities supported by CU and local partners. Some school leads were eager to participate because they wanted to establish after-school clubs and social action activities for the first time, and participation in the project could be beneficial for involving parental support. The CU endorsement allowed schools to build a school profile for OFSTED inspections and parental engagement.

The implementation of social action activities was sometimes challenged by the geographical location of the schools. Schools in urban centres had various opportunities to engage with partnerships for social action or approach various learning destinations, with less cost for travel. However, schools in rural areas needed more resources and motivation to create wider engagement opportunities for pupils.

The evaluation team visited eight interventions schools to collect information on the CU activities. A general observation was that after-school clubs were popular and well attended by pupils. However, the social action activities themselves were not as frequent or always fully integrated with after-school activities. The schools provided various opportunities for children to participate in sports, arts and crafts, singing and drama, cookery, sewing, board games, and photography. A CU manager explained that such after-school activities where school staff have access and control are easier to conduct in a safe environment. On the other hand, social action often requires preparatory work such as risk assessment, protocols for pupils' health and safety checks, and parental consent.

One school had gardening as an after-school club where pupils were helped to grow vegetables. The school arranged community days to sell the vegetables grown in the garden and raised money for donations to cancer research. A few schools organised community days to sell cup-cakes and raised funds to support a children's hospital. One of the schools helped pupils in making and selling art and craft items and donations were made to the local home for elderly people. Several schools made packs for donations to food banks. Pupils were asked to collect items not used in their homes such as clothes, utensils and toys. The schools donated collected items to organisation such as Oxfam and the Red Cross. Pupils also participated in charity and fund raising activities out of school, with help and support provided by parents, family and community members. These activities included charity events and collection services in a local Church and participating in awareness walks.

During school visits we asked pupils about the reasons for their participation in social action. It seemed that in general they had a good idea of the reasons for participation and that meaningful social actions are those which have benefits for the communities who need help.

We know we can't see children living in countries where there is war but we can at least collect money for the charity so they can buy food and clothes for children in need.

My school is very nice. Teachers are very nice. We play and do a lot of fun activities. We have raised funds for school buildings in Uganda so that children go to schools like mine.

The schools also adopted social action that was focused on the needs of local community. Pupils were asked about these social actions and they said:

> We want our streets to be clean and no litter around. We want no graffiti on the walls. We have made these posters so that people should see that we care about our area.

> During play time in the ground we see younger children bullied by the older ones. We have done a project and we will talk about this in our school assembly so that older children should know that bullying is bad.

The children received a certificate of achievement in a formal graduation ceremony at the end, with parental participation. The CU management ensured that the event was a special occasion for pupils. Pupils enjoyed wearing gowns and mortarboards and being photographed with their CU achievement certificates in hands. One pupil said:

> It is really so great. I felt so proud in wearing the graduation gown and scholar's hat. This has made me want to come to university for studies in the future.

There were several outcomes attributed to the activities of the programme by stakeholders. Schools, in general, agreed that out-of-school activities are enrichment activities that cost staff time, pupils' learning time and financial resources. It is often difficult for schools to implement these activities on a regular basis without resources, which further reduces the participation opportunities for disadvantaged pupils. The school leaders and parents who were interviewed during the project agreed that volunteering and other youth social action projects should be recognised as an important part of learning via schools, as this supports pupils' character building and inspires them to achieve a better future.

According to school leaders the increased participation of pupils from disadvantaged families was perceived as the most successful outcome of the programme – in some schools this was deliberate, and in others it occurred naturally. The school leaders believed that pupil premium funds used in these activities were perhaps the first chance for some pupils to participate in exciting after-school clubs such as swimming, karate and coaching for their favourite sports activity. Some schools purchased sport kits for pupils, which encouraged them to attend the after-school sports clubs regularly. The arrangement was supported by school leaders, as they had the knowledge about some children whose parents had severe financial constraints and could not manage to spend on enrichment activities.

Pupils' believed that the activities inspired them to think about studying in a university and choosing a profession. Some schools held lectures by science professionals, and arranged visits to science museums and laboratories. These activities were perceived to have an impact on pupils' aspirations to pursue careers in science. Several groups of students in various schools were asked about their future careers, and during this conversation they reported that their school had done community and social action projects with providers called 'Be the Change' and in doing this project they were given a lot of information about social work which inspired some pupils to seek a professional degree in this field. In another school, where pupils completed a project on building schools in a developing country, they were given a lot of information about the humanitarian crisis and need for education in the war zones. Some pupils also commented that these social action projects made them think about working for organisations such as the Red Cross.

Social action projects were perceived by many stakeholders to have had an impact on pupils' sense of empathy and awareness about other people's feelings. The school leaders said that sponsoring charities had given pupils a lot of information on causes such as water-aid for developing countries, animal welfare, homelessness and cancer research. In the school assemblies these issues were discussed for pupils' awareness and participation.

Conclusions

Limitations

The location of some schools in rural areas was a challenge, as the choices for activities are more limited in these settings. Some schools reported that they had problems with allocating staff time to the activities. The activities required the use of staff in out-of-school hours, and generally new appointments were needed for running these projects. One of the school leaders also reported that the new challenges in the curriculum demand more time and focus on direct teaching rather than extra-curricular activities. Schools that are under Ofsted pressures for improvement in attainment cannot focus on extracurricular projects. Several school leaders said that pupils in Year 6 need preparation for their Key Stage 2 exams and it is difficult to engage the last year of primary school in activities other than the main achievement targets. Parental lack of support was also reported as an occasional barrier in the engagement of pupils. Some activities required parents' participation in the form of parental consent and even their attendance to accompany their child to events such as graduation. It was a challenge to reach some parents and engage them in the activities, and according to teachers this was most common among parents from disadvantaged backgrounds.

The evaluation is a reasonably large-scale trial in terms of the number of schools and pupils involved. The time scale adopted was two complete calendar years which is a substantial amount of time for an educational trial that allowed the intervention to be implemented fully. No schools dropped out, and missing data on pupils is minimal. The KS1 and matched KS2 results are from the National Pupil Database and include all cases for which there are records

The main limitation of the evaluation stems from the design in that schools, rather than pupils, were randomised, and not every child in treatment schools undertook the intervention – thus reducing the 'power' of the study. Attempting to capture changes in non-cognitive outcomes via self-report is perhaps the best that can be done, but it is not without problems (Gorard et al. 2017). The number of missing cases needed to disturb some of the findings is small, and no larger than the number of cases with missing values.

Implications

Disadvantaged pupils are known to be less likely to participate in enrichment activities beyond the classroom, while at school. There are a number of possible reasons for this, including the additional costs. Indeed, as reported by school leaders, the most exciting external programmes can be the most costly in terms of utilising resources and staff time. There are also issues of priority, motivation and interest. This new study has shown that it can be feasible to provide more opportunities for poorer children, who will then take an interest in these activities. Some, such as growing vegetables at school or preparing packs for charity, do not have a high cost, and do not even have to be away from the school premises. They can also be funded using pupil premium money, and of course some schools may already have a comprehensive programme. There are small average gains for the volunteer pupils taking part in the intervention in attitudes to communicating and working in a team, and to taking more responsibility for peers and the local community. However, the gains for both areas, and for others such as aspirations and motivation, are much greater for poorer children in this study. If such gains are seen as trustworthy and valuable, then they indicate that much more can be done by schools and others to overcome the current poverty gap in wider school outcomes. This does not have to involve CU, which is only one of a large class of possible approaches and interventions tested as part of the youth social action programme (see above). Some may be more popular with schools than CU which had some trouble recruiting and retaining schools for the trial.

Disadvantaged pupils are also well-known to have lower average attainment than their peers at school. However, the results here are not so clear in this respect. Although the average attainment (and progress) scores of volunteers were notably higher in the treatment group, this was not true for the poorer pupils. This means that if this type of intervention were adopted wholesale for the purposes of raising attainment, the poverty gap might actually worsen. In addition, the gains in attainment come at greater cost and are lower than for a number of other possible interventions (that could be funded by pupil premium funds in England). Therefore, we do not advise that such extra-curricular approaches are adopted if the key motivation is to improve attainment at school. The main advantage of the overall

increase in attainment is that it can be used to help justify the use of pupil premium funds, to reduce the motivation and attitude gap for poorer pupils via youth social action.

Acknowledgements

References

Algan, Y., Beasley, E., Vitaro, F., and Tremblay, R. (2014) The Impact of Non-Cognitive Skills Training on Academic and Non-academic Trajectories: From Childhood to Early Adulthood. *Sciences Po Working Paper*

Birdwell, J., and Bani, M. (2014) Introducing generation citizen, http://dera.ioe.ac.uk/23196/

Birdwell, J., Scott, R. and Reynolds, R. (2015) *The double benefit of youth social action could help to tackle some of our most social problems: Service Nation 2010*. London: DEMOS

Boeck, T., Makadia. N., Johnson, C., Cadogan, N., Salim, Hogar, Cushing, J. (2009*) The impact of volunteering on social capital and community cohesion.* Leicester: Youth Action Network

Bradbury, S. and Kay, T. (2005*) Evaluation of the pupil centred stages of phase one of the Step into Sport project*, Loughborough: Institute of Youth Sport

Brighouse, H. (2008) Education for a Flourishing Life, Yearbook of the National Society for the Study of Education, 107, 1, 58–71

Brunello, G., and Schlotter, M. (2011) Non-cognitive skills and personality traits: Labour market relevance and their development in education and training systems, IZA Discussion paper, http://ftp.iza.org/dp5743.pdf

Carr, D. (2015) The paradox of gratitude, British Journal of Educational Studies, 10.1080/00071005.2015.1011077

Chanfreau, J., Tanner, E., Callanan, M., Laing, K., Skipp, A. and Todd, L. (2016) *Out of school activities during primary school and KS2 attainment,* Nuffield Foundation Report

Cheung, P. (2016). Children's after-school physical activity participation in Hong Kong: Does family socioeconomic status matter?, *Health Education Journal*, 0017896916660863

Collado, D., Lomos, C. and Nicaise, I. (2014) The effects of classroom socioeconomic composition in student's civic knowledge in Chile, *School Effectiveness and School Improvement*, 26, 3, 415-440

Cooperative StreetGames Young Volunteers (2014) *The Cooperative StreetGames Young Volunteer Programe. Evaluation report for year six: 20012-2013.* London: Street Games.

DfE (2017) Revised A level and other 16-18 results in England, 2015/2016, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/584124/SFR05_2017__A_level_and_other16-18_results_in_England_SFR_revised.pdf

Duckworth, A. and Scott Yeager, D. (2015) Measurement matters: assessing personal qualities other than cognitive ability of educational purposes, Educational Researcher, 44, 4, 237-251

Farthing, R. (2014) The Costs of Going to School, from Young People's Perspectives, *Child Poverty Action Group*, 10-11

Fleming, J., Mitchell, W. and McNally, M. (2014) Can markets make citizens?, Journal of School Choice, 8, 2, 213-236

Fogelman, K. (1995) Why is citizenship so important? *Citizenship*, 4, 19-23

Gorard, S. (2012) Querying the causal role of attitudes in educational attainment, *ISRN Education*, Volume 2012, Article ID 501589, 13 pages, doi:10.5402/2012/501589

Gorard, S. and Smith, E. (2010) *Equity in Education: an international comparison of pupil perspectives*, London: Palgrave

Gorard, S., See, BH and Siddiqui, N. (2017) *The trials of evidence-based education*, London: Routledge

Gupta, N. D., and Simonsen, M. (2010) Non-cognitive child outcomes and universal high quality child care, *Journal of Public Economics*, 94, 1, 30-43

Gutman, L., and Schoon, I. (2013) The impact of non-cognitive skills on outcomes for young people, *Education Endowment Foundation. Available at: http://educationendowmentfoundation. org. uk/uploads/pdf/Non-cognitive_skills_literature_review. pdf*

Haste, H. (1996) *Understanding voluntary organisations*. London: Penguin

Heckman, J.., and Rubinstein, Y. (2001) The importance of non-cognitive skills: Lessons from the GED testing program, *American Economic Review*, 145-149

Holloway, E., Mahony, S., Royston, S., and Mueller, D. (2014) At what cost? Exposing the impact of poverty on school life, https://www.childrenssociety.org.uk/sites/default/files/At_What_Cost_Exposing_the_impact_of_poverty_on_schoo_life-report_%20summary.pdfHoskins, B., Janmaat, J., Han, C. and Muijs, D. (2014) Inequalities in the education system and the reproduction of socioeconomic disparities in voting in England, Denmark and Germany, Compare, doi: 10.1080/03057925.2014.912796

Hyland, T. (2015) The limits of mindfulness, British Journal of Educational Studies, 10.1080/00071005.2015-1051946

Kirkman, E., Sanders, M., Emanuel, N. and Larkin, C. (2016) Does participating in social action boost the skills young people need to succeed in adult life? Evaluating Youth Social Action: Final report. London: Behavioural Insights Team

MacBeath, J. (2011) Evaluation of the Children's University 2010. *Manchester: National Children's University*

MacBeath, J. (2012) *Evaluating provision, progress and quality of learning in the Children's University,* Leadership for Learning: University of Cambridge, http://www.childrensuniversity.co.uk/media/13021/cu_evaluation_2012-13_full.pdf

MacBeath, J. and Waterhouse, J. (2008) *Evaluation of the Children University: First Report*, Cambridge: University of Cambridge

Manning, N. and Edwards, K. (2014) Does civic participation for young people increase political participation? A systematic review, *Educational Review*, 66, 1, 22-45

O'Brien, S. (2014) 'Graceful failure': the privatization of resilience, International Studies in Sociology of Education, 24, 3, 260-273

Ockenden, N and Stuart, J. (2014) Review of evidence on the outcomes of youth volunteering, social action and leadership. Institute of Volunteering Research. London: NCVO

Olsson, C., McGee, R., Nada-Raja, S. and Williams, S. (2013) A 32-year longitudinal study of child and adolescent pathways to well-being in adulthood, *Journal of Happiness Studies*, 14, 3, 1069-1083

Parr, A. and Bonitz, V. (2015) Role of family background, student behaviors, and school-related beliefs in predicting high school dropout, *The Journal of Educational Research*, *in press*

Power, S., Taylor, C., Rees, G., and Jones, K. (2009) Out-of-school learning: variations in provision and participation in secondary schools, *Research Papers in Education*, 24(4), 439-460

Pye, J. and Michlemore, O. (2016) National Youth Social Action Survey. Ipsos: MORI, https://www.ipsos-mori.com/Assets/Docs/Publications/sri-youth-social-action-in-uk-2016.pdf

Pye, J.; James, N.and Stobart, R. (2014) Youth social action in the UK-2014: A face-to-face survey pg 10-20 year olds in the UK. Ipsos MORI, https://www.ipsos-mori.com/Assets/Docs/Publications/sri-ecf-youth-social-action-in-the-uk-2014.pdf

Rosenberg, M (1965) *Society and the adolescent self-image*. Princeton, NJ: Princeton

See, BH, Gorard, S. and Siddiqui, N. (2017) Does participation in uniformed group activities in school improve young people's non-cognitive outcomes?, *International Journal of Educational Research*, 85, 109-120, https://www.sciencedirect.com/science/article/pii/S0883035517305608

Siddiqui, N., Gorard, S. and See, BH (2017) Can programmes like Philosophy for Children help schools to look beyond academic attainment?, *Educational Review*, http://dx.doi.org/10.1080/00131911.2017.1400948**.**

Siddiqui, N. and Ventista, OM (2018) A review of school-based interventions for the improvement of social emotional skills and wider outcomes of education. *International Journal of Educational Research*.**https://www.sciencedirect.com/science/article/pii/S0883035518303094**

Siddiqui, N., Gorard, S. and See, BH (2018) The importance of process evaluation for randomised control trials in education. *Educational Research* (Special issue on Randomised Control Trials in Education): https://www.tandfonline.com/doi/full/10.1080/00131881.2018.1493349

Southby, K., and South, J. (2016) Volunteering, inequalities and barriers to volunteering: a rapid evidence review, Leeds Beckett University

Wikeley, F., Bullock, K., Muschamp, Y., and Ridge, T. (2007) Educational relationships outside school: Why access is important, York, UK: Joseph Rowntree Foundation