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A Series of Research and Policy Publications of
The Schubert Center for Child Studies
College of Arts and Sciences
Case Western Reserve University

Improving Academic Achievement

Research has established a clear link between children's academic achievement and their long-term success. hildren's academic per ormance and educational attainment are tied to income and emplo ment status later in li e. Additionall we know that earl academic per ormance is a good predictor o later per ormance. or e ample children who do well academicall are more likel to graduate rom high school and go on to college than those who do not. Indeed in a comprehensive review o the literature published b hild rends all studies that included a measure o prior achievement as a predictor o later achievement ound it to be positive and statisticall signi icant.

In response to this research and to the growing concern in the nited tates that our children are not achieving at the level o children in other developed nations the ederal government enacted the *No Child Left Behind Act of 2001. No Child Left Behind* established an impressive goal All students will meet high achievement standards b . It changed the ederal government's role in - education b ocusing on school success as measured b student achievement. It mandates each state to identi learning standards implement measures to track success and b imposing sanctions on schools and districts that are poorl holds ever school accountable or making ade uate earl progress. his action has dramaticall e panded the role o standardi ed testing in public education re uiring that students in grades three through eight be tested ever ear in reading and math.

ince the implementation o *No Child Left Behind,* students in hio have made gains in academic achievement. ince according to the hio epartment o ducation average student test scores as measured b a per ormance inde ranging rom to have increased b more than points rom to . owever despite this improvement in the - school ear hio did not meet the standard percent o students at or above the pro icient level or elementar school math in grades three our and si and reading scores were onl slightl above the standard between and percent in grades three our and ive. Additionall almost percent o hio students did not graduate rom high school and percent o hio schools were classi ied as being under academic watch or academic emergenc .

In addition to the ederal Act e orts to boost earl academic success are being undertaken in a variet o wa s. ommunities schools teachers and parents across the countr are searching or and e perimenting with wa s to improve teaching methods motivate students engage parents and otherwise help our students learn and our schools succeed. ne approach is being implemented in rural hio and studied b researchers at ase estern Reserve niversit .

T T T T in the ollege o Arts and ciences at ase estern Reserve niversit promotes multidisciplinar research on children and childhood. ur goal is to build and enhance connections among research polic and educational initiatives at the niversit and with the communit . he chubert enter's ocus is on children and childhood rom in anc through adolescence in local national and international conte ts.

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Improving Academic Achievement: The Effect of Financial Incentives on Elementary School Test Scores

Associate ro essor
epartment o conomics
eatherhead chool o anagement
ase estern Reserve niversit

Dr. Eric Bettinger is interested in the economics of education, educational vouchers, and predicting college success. He has studied these issues both in the United States and abroad. One of his recent projects, evaluating the effect of providing financial incentives on academic achievement among grade school children, is attracting significant attention.

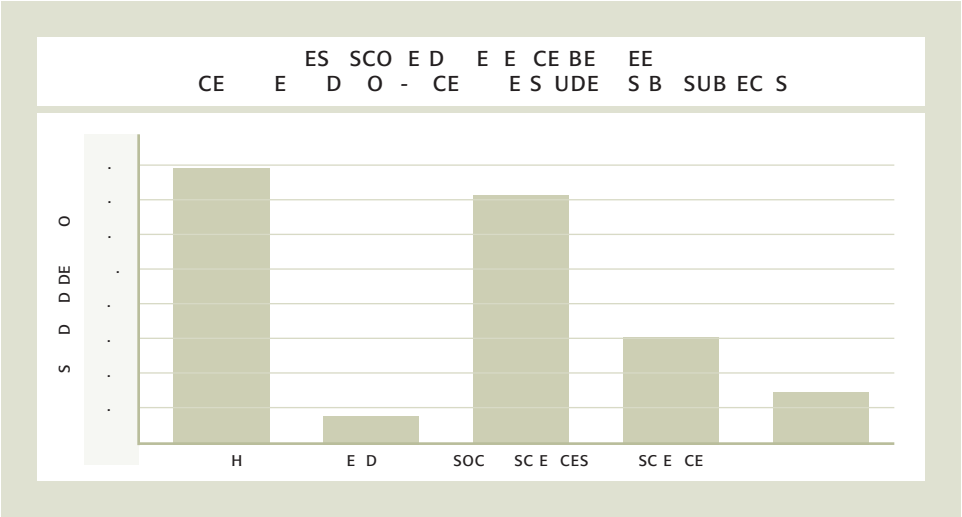
oshocton it chools a -pupil district about miles rom olumbus in the Appalachian region o hio is in the last ear o a three- ear e periment to test the e ect o inancial incentives on students' academic achievement. In this stud students in grades three through si receive or ever score o pro icient above the th percentile and or a score o accelerated or advanced above the th percentile on the state pro icienc e ams. tudents can collect a total o i the have high scores in all ive sub ects math reading writing science and social studies . hildren are paid in oshocton hildren's ucks a gi t certi icate redeemable at local establishments to be used onl on items or the child. he program is currentl in its inal ear but could be continued i data show the incentives boosted student test scores. he inal data will be compiled this summer.

or the e periment entire grades rom the cit 's our elementar schools were randoml chosen to either receive the rewards or not. he randomi ation was done b lotter conducted at the beginning o each school ear - - and - . ecause lotteries were conducted each ear man students were eligible or the program one ear but not the ne t. his allows the research team to e amine both the e ect o receiving the voucher and ear a ter e ects among student who receive it one ear but not the ne t. Additionall the design o the oshocton e periment ma help answer important uestions about the e ect o e ternal motivation on intrinsic motivation a uestion that has long been debated in the ield.

hile the e periment still has another si months be ore conclusion and anal sis is incomplete some o the preliminar results look promising. urrent data show positive e ects in math scores. In act those eligible to receive the incentives scored about . standard deviations higher than those who did not. here also appears to be positive e ects in social science and to a lesser e tent in science. owever no signi icant di erences were ound in reading and writing scores between the groups receiving the incentive and those who did not.

In terms o ear a ter e ects while preliminar results show a positive e ect in the irst ear the do not appear to carr over into subse uent ears when students are no longer eligible or the incentive nor does there seem to be a cumulative positive e ect or those in the e periment over two ears. his ma suggest that the e istence o e ternal motivation has a negative e ect on the intrinsic desire to learn.

T T by Coshocton manufacturer obert Simpson ith a , grant from his family foundation. he Coshocton businessman funded the project after he read about a study in orbes maga ine that found incentives boosted attendance and test scores among girls ho received cash re ards for passing e ams in public schools in enya.



[illegible] and his colleagues also recently completed a study e amining effectiveness of the CES program one of the largest educational voucher initiatives ever implemented. he program, in Bogot , Colombia, provided over , economically disadvantaged children ith vouchers that covered half the cost of private secondary school. he study found that the program increased secondary school completion rates by - percent.

he signi icance and strength o the e ects o incentives on test scores especiall in math in oshocton are promising. revious research on similar incentive programs has ound onl modest e ects or in man cases no signi icant e ects or signi icant e ects onl or a small subset o children. he oshocton e periment b virtue o its research design o ers the opportunit to more ull understand wh the program is working. As part o the data collection e ort teachers were e tensivel surve ed about modi ications the made in the classroom as a result o the program. ualitative data anal sis will shed light on how and in what wa s this impacted students learning. Additionall grassroots support was established within the schools and the communit be ore the program was implemented. A deeper understanding o this eature o the program ma also provide guidance or uture e orts.

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he research being conducted b ric ettinger at ase estern Reserve niversit has signi icant implications or polic and practice.

reliminar results demonstrate the e ectiveness o providing incentives directl to students and also highlight uestions that still need to be answered in uture research. he attention paid to how the program was implemented and studied provides valuable in ormation to practitioners and researchers about how to establish such programs and evaluate them in the uture.

roviding incentives directl to students like the e periment in oshocton is one o man e orts being made across the countr to improve children's academic achievement. he ederal *No Child Left Behind Act* is another.

owever to reach all children a combination o approaches targeting multiple levels ma be necessar . A recent review o the literature published b hild rends e amined a number o areas or targeted intervention including academic achievement achievement motivation and school engagement. or each o these areas the report identi ied actors ound

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in the literature to be important at the individual amil peer school neighborhood program and societal polic level.

he oshocton e periment and others like it provides some guidance on how to in luence these actors on a number o levels. At the individual child level it suggests that incentives matter. ven i a program does not provide direct incentives to students program designers and polic makers should consider the e ect o policies and programs on students' motivation to do well. Additionall at the neighborhood and communit level the oshocton e periment is an e ample o a uni ue wa a communit including its business leaders came together on behal o its children and schools. rograms and policies such as this which lead to business leaders' increased commitment to and a greater stake in the communit ma lead not onl to direct bene its or children but also indirect bene its to the communit b providing a seedbed or innovation and investment.

edd, ., Broo s, ., and c arvey, . Child rends ashington, D.C.

to improve academic achievement by providing incentives to students include an e periment in srael here financial incentives to high school students ere found to improve scores on college entrance e ams. n Dallas, students ere compensated for the number of boo s they read on their o n initiative. n Canada, college students ere given bonuses if they ept their grade-point averages at a certain level. Ho ever, other programs have been discontinued due to lac of support. or e ample, in late s, the Cleveland schools operated a Scholarship-in-Escro program that re arded students in grades through for good grades. oney as held in an account and could be used for college tuition. he program as discontinued in the early s. n , he e or City schools implemented an incentive program similar to Coshocton s, but it as discontinued due to lac of political and grassroots support.

Schubert Center for Child Studies
614A Crawford Hall
10900 Euclid Avenue
Cleveland, OH 44106-7179

216.368.0540
www.case.edu/artsci/schubert/
schubertcenter@case.edu