Which school interventions are beneficial for the development of non-cognitive skills of primary school students? A review of existing evidence

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Contribution

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The impact of school interventions on attainment –and particularly on Reading and Mathematics - is the focus of educational policies and educational research. However, it can be questioned whether this type of knowledge is indeed important for the later life of the students. This knowledge provides students with the opportunity to pass the exams and enter the labour market, but it is possible that the students are still unqualified and unprepared for the true challenges. Schools offer both cognitive and non-cognitive gains to the students and our knowledge about the non-cognitive domains is quite limited compared to the cognitive. Non-cognitive skills are referring to the character and this term is preferred instead of traits to show our stance that these characteristics are not inborn, but they can be learnt (Heckman & Kautz, 2013). This social emotional learning that takes place in school is crucial and to a greater extent more required in real life circumstances than academic performance. However, mostly due to the accountability of the schools where effectiveness is commonly measured by attainment, the reinforcement of non-cognitive skills in schools is undermined.

Non-cognitive skills can result also in the cognitive skills' development (Heckman &Kautz, 2013; Tierney, Grossman, & Resch, 1995). There are interventions when the non-cognitive skills have been used as a moderator factor to increase attainment. An intervention targeting self-regulation found enhancement not only in the attainment, but also general cognitive traits, such as reasoning and attention (Blair &Rever, 2014). Non-cognitive skills have been associated with the labour market (Acosta, Muller &Sarzosa, 2015).A follow-up of the Seattle Social Development Programme has used social

behaviour in childhood as a predictor of positive adult functioning and preventing mental health problems and substance use (Hawkins et al., 2005). Furthermore, non-cognitive skills can be a predictor for adult criminality (Agan, 2011), health (McCord, 1978) or admission into higher education (Torres-Gonzalez et al., 2014; West et al., 2014).The non-cognitive skills can be also observed as factors which play role towards the gap in the attainment between different social groups and thus can berelated with social inequalities since earlier academic stages (Noden&West ,2009).

Therefore, non-cognitive skills have been shown as meaningful to be fostered by schools. In this research we appreciate the significance of non-cognitive skills and we are looking for evidence in the existing bibliography regarding successful techniques and interventions in primary schools which could lead to the increase of non-cognitive skills. We did not choose to include specific types of non-cognitive gains and exclude others, because we support that non-cognitive skills are interrelated and we cannot have clear distinctions between them. Except for a purpose of categorisation, there are no clear boundaries between them and a combination of all constructs a complex system.

Method

We asked the following research questions:
Is there any evidence that pupils' non-cognitive skills can receive the impact of interventions during primary school years?
What interventions have been found effective on children's non-cognitive traits?
What is the overall quality of the existing research evidence on non-cognitive interventions?

A rapid review of the existing evidence was conducted. A systematic approach of search was followed by developing a syntax notation as described by EPPI Centre for research.This search approach is largely used for scopingevidencein the fields of social sciences (http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=67).The selected databases were ERIC, EBSCOhost, Google Scholar, Web of Science, Project MUSE,EPPICentre database, SSRN and ProQuest (for dissertations and thesis). The syntax was equally compatible for searching in all these electronic databases. We applied the filters of publication date from 1995-2015.

In the first round of search all the initial results were imported from the selected databases. The abstracts and executive summaries were read in order to narrow down the selection of research. The researchers summarised the finally selected 74 studies and both of the researchers graded them. The studies were scored 0 to be excluded and 5 for the most trustworthy studies. Specifically, 5 was given to randomised controlled trials with reported baseline equivalence and attrition, 4 to Control Trials with reported attrition, but matched control group and not randomised sample, 3-2 to trials with control group but without randomisation and no reported attrition or baseline equivalence, large scale surveys with reported attrition, 1-0 for trials without controlled or comparison group, trials or surveys with small sample which are not relevant. This means that they have a robust design, but they not targeting the improvement of non-cognitive skills.

Only the studies which obtained a score more than 3 from both researchers were included. Therefore, the inclusion criteria for the studies were a) published after 1995 b) published in English language c) interventions which targeted the development of non-cognitive skills d) interventions taken place in a school context e) conducted with participants aged 6-12 years old f) randomised samples or appropriate match group samples g) reporting sufficient information for pre and post-testing, so we can calculate the effect size.

For the selected studies we calculated the effect size based on the reported data for the pre-test and the post-test for the control and intervention group. The sizes of the sample were also taken into consideration for the final analysis.

Expected Outcomes

We will present the details of the implementation of the most trustworthy interventions aiming to develop the students' non-cognitive skills. The results of this review will be informed based on aggregated selected studies and the ones excluded for the analysis. Additionally, we will briefly present the process of conducting this review and how we concluded the evidence obtained through this systematic approach. The outcomes will also shed some light on the quality of existing evidence and will make further recommendations to overcome the gaps in research.

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