

[Pre-print]

**THOUGHT PIECE**

## **The global diversity of shadow education**

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### **1 INTRODUCTION**

This essay explores what is known and what needs yet to be learned about the educational activities administered outside of formal schooling across countries. Different nations have accommodated the educational needs of students in unique ways that contribute to diversities of activities, making them context- and culture specific. Increasing numbers of publications have adopted a common metaphor “shadow education,” indicating that the content of instruction mimics the content of mainstream education (see e.g. Bray, 1999; Stevenson and Baker, 1992). Other related terms will be used throughout this essay to denote similar formal or informal educational arrangements such as private tutoring, extended education, after-school studies, outside-school-time, informal learning, or additional studies. All of them refer to organised opportunities for students to have educational experiences throughout the time not engaged in formal instruction. For this essay and its title, we chose to use a broader term “shadow education” as an umbrella term of various related educational activities; some of them may or may not mimic the curriculum of mainstream schools—which usually gets most prominent attention—while other outside-school educational activities often stay in the shadows.

A more comprehensive list of 22 related terms has been culled from the published literature; however, it might be incomplete. The terms used by researchers to examine student activities outside of formal schooling include shadow education (Stevenson & Baker, 1992; Bray, 1999), additional instruction (OECD, 2016), afterschool programs, after-school time, alternative education, cram school, engaged activities, extended learning or education (Fischer & Klieme,

2013; Gromada and Shewbridge, 2016), extracurricular activities (NRC, 2015), group learning, outside-school time (Noam & Shaw, 2013), private supplementary tutoring, summer learning (Alexander, Entwisle, Olson, 2007), supplementary tutoring, and tutoring. In addition to English terms, each country has created other labels; thus, tutoring is known under many different linguistic expressions and names. For example, in Japan tutoring companies are called “juku”; in South Korea afterschool programs are widely known as “hagwon”; in Taiwan the term is “buxiban,” while in Greece, tutoring is called “parapedia” (i.e. education that goes in parallel with mainstream schooling). In Russia, they use the term “repetitorstvo” to denote private tutoring and “repetitor” for a private tutor. The Russian terms are also widely used in countries of the former Soviet Union. In countries where English is an official language, such as Pakistan, India and Singapore, tutoring is known as “private tuition.”

This variety of terms used for student activities outside of school time illustrates that these activities may take a variety of visible and invisible forms. The visible forms are when tutoring is legally provided by a licensed or registered individual or a company (Hong Kong, Singapore, South Korea, etc). The less visible forms can be observed, for example, in terms of public-private partnerships when formal school authorities invite private providers to work inside schools. Usually information of such partnerships is difficult to obtain.

Our discussion will elaborate the different forms of shadow education according to types of providers, location of instruction and methods of support. It will identify commonalities and differences in additional study opportunities, briefly review the direction of academic research on the topic, suggest how the patterns of differences across nations might be organised, and recommend areas and methods for future research.

## **2 FRAME AND DEFINITIONS**

Formal schooling is conducted during specific times of the day, week, and year; its quality is evaluated by formal procedures of various kinds. Shadow education may occur at any time of the day, month or year and is not commonly evaluated by formal experts. After-school programmes are designed to assist students with extending their cognitive and emotional learning in formal school subjects such as mathematics and languages. But other after-school programmes are also oriented toward leisure or culture such as sports, music and arts, and other non-academic extracurricular activities. Yet some programmes are developing more technical skills in students such as those related to robotics, programming, Artificial Intelligence and Information and Communications Technologies (ICT). Every country has developed a formal school system organised, funded and monitored by governmental authority. Shadow education organisations are usually not supported by public funds or managed by governmental agencies (although, some exceptions have occurred when public funds are used for supplemental educational activities, see e.g. Bae and Jeon, 2013).

Some formal school systems also include characteristics of informal education by extending instruction outside regular classroom time, by requiring homework, or by providing extracurricular activities approved by the governing education system. To obtain a full understanding of the nature of education, both formal and informal systems of learning should be considered as integral parts of a whole education system.

## **3 ORGANISATION OF SHADOW EDUCATION**

Looking at studies across countries, it is evident that types of providers range from individual tutors to large companies, engaging thousands of students. In low income countries, tutoring is often provided by public school teachers for additional income. Instructors in shadow education may come from many backgrounds such as the regular school system (current and retired teachers), universities (professors and students), government agencies, individuals who market themselves as tutors (with or without teaching qualifications), and businesses (tutoring companies, community organisations, and non-governmental organisations), and from faith-based organisations (churches, mosques, Buddhist pagodas, etc).

Likewise, shadow education can take place in many different venues, both public and private. International research studies have identified venues for after-school care, such as commercial businesses, public school buildings, private schools, places of worship, community centres, youth organisations, teachers' homes, students' homes, public libraries, or home computers, boarding schools, tutoring centres, non-governmental organisations (NGOs), universities, cafeterias, rented apartments, garages. Moreover, tutoring is increasingly provided by online websites, by video conference (such as Skype) and by other internet-based platforms. In the future—with a rapid development of technology—student learning may take place in such a variety of virtual environments that researchers may have difficulty identifying the source of learning. Increasingly the nature of education itself is being altered by the growth of technology worldwide which provides easy access to educational materials that was not possible in previous generations. Whether or not these changes will be adopted by the formal schooling systems remains an area of intense analysis and discovery. Some examples of artificial intelligence-aided platforms have already been established in technologically advanced societies.

The extent to which a particular country has developed an extensive set of systems for administering shadow education depends upon the general public's perception of the quality of the formal education system. The characteristics of shadow education are affected by policies and practices of the mainstream school system, as well as the social, economic, political and historical background of the population. Parents of all social classes use shadow education strategically as a tool for investing in the future of their children. It is a multifaceted phenomenon that has implications for the lives of students, teachers, parents and other actors in education. It may take a form that maintains a mutual relationship with formal schools, which, in turn, shapes experiences of different actors in education, interferes in school processes and, arguably, changes the dynamics of a student's educational experiences. In some instances, aggressive marketing of tutoring companies drives the demand for additional study that reinforces the anxiety of students and parents.

#### **4 COUNTRY DIFFERENCES IN LABELS**

Some have argued that Asia is “a cradle of private tutoring”, because Asian cultures have a long history of Confucian philosophy of learning that is more likely than in other cultures to stress additional learning outside of formal school (Manzon & Areepattamannil, 2014). Using a broad definition of “additional study”, large-scale international studies have found that many non-Asian countries also have high levels of participation (OECD, 2011; OECD, 2016). Evidence from analysis of the types of articles published indicates that while researchers in Europe, Americas, and Asia have all published papers on shadow education-related activities, the greatest number of authors and country level analyses is in the Asian region. In fact, the proportion of research papers conducted in Asian countries had increased from a quarter of all publications in the early 2000s to

about three-fourths of all publications between 2015 and 2019, while the number of research studies conducted by authors in the United States has declined. The number of publications about European countries has also increased in recent years, especially after the development of comparative surveys such as the Programme for International Student Assessment (PISA). Germany is among a few countries that have developed specialised surveys for the purpose of assessing the effects of student participation in additional classes.

## **5 EUROPE**

Available information about after-school programs in European countries varies considerably from country to country. Few researchers in Western Europe have chosen to investigate the properties of shadow education (Suter, 2016). The estimates of participation rates available in the recent international student assessment survey (PISA)<sup>1</sup> shows that countries in the Eastern European region such as Poland, Greece, Lithuania, Bulgaria, Slovenia, Slovak Republic, Latvia, Hungary, and Croatia, have a significant high level of participation of students in after school programs in science, mathematics and local language. Whereas northern European countries like Denmark, Iceland and Germany have lower participation (OECD, 2016). Going against the trend, England, reported higher levels of out-of-school-time participation in science, mathematics and language than other European countries. Few research studies have yet been conducted to describe fully the causes of differences within Europe.

Some terms used in Europe include “extended education” and “all day education” especially expanded in Germany in recent years (Stecher & Maschke, 2013; Fischer, Holtappels, Klieme, Rauschenbach, Ludwig & Züchner, 2011). Greater attention has been given to the length of the study day in Germany following the publication of the PISA assessment surveys from 2000 to 2015 that have shown that student achievement in Germany does not compare well with other countries. About a third of fifth grade students are enrolled in some form of extended education in Germany. So-called “all-day schools” have become popular in Germany; such schools provide extracurricular activities in the afternoon, relate conceptually to classroom lessons and help students with school homework. Varieties of all-day schools include compulsory all-day schools, open all-day schools (participation is voluntary), mixed all-day schools (flexible choice) (Fischer, Theis, & Züchner, 2014). Eastern European countries also appear to have a greater attraction to private tutoring. Silova (2010) reports that Eastern Europe has experienced a rapid increase in shadow education since 1990s after the break-up of the Soviet Union. Given the teachers’ low salaries in Romania, Azerbaijan, Armenia and Georgia, major actors in the private tutoring market are still schoolteachers for whom tutoring has become an additional source of income (Kobakhidze, 2018; Popa and Acedo, 2006). Further looking at countries of the former Eastern Bloc including Czech Republic, it seems that the private tutoring phenomenon has found a fertile ground for flourishing in both face-to-face and online forms (Šťastný, 2017).

## **6 RESEARCH DIRECTIONS**

Research about the students and teachers in shadow education is increasing but is limited by the quality of reliable measurements. Because the number of options for additional study is large, the methods of research include a broad spectrum of techniques, ranging from aggregation of information provided by government agencies to interviews with students and instructors. Most countries do not collect information about participants and providers of these activities. Although

two international studies, TIMSS and PISA, have included questions for student self-responses about their after-school study time to account for its effect on country-to-country achievement levels. Despite their robust methodology for measuring student achievement, these international large-scale studies are not free from methodological pitfalls and measurement errors. One of the major concerns that critics raised was related to lack of culture- and context-sensitive questions that would allow meaningful cross-cultural comparisons of shadow education (Bray and Kobakhidze, 2014; Rutkowski, Rutkowski & Liaw, 2019). Scholars also noted other problems in questionnaire construction and translation accuracies, suggesting researchers of PISA surveys to use data with a caution against overgeneralisations (Bray and Kobakhidze, 2014; Bray, Kobakhidze & Suter, 2020). Nevertheless, the information provided in the currently available large-scale surveys provide a basis for exploring some aspects of student experiences, albeit with suggested careful analysis of data and interpretations derived from them.

Yet, the number of research studies about shadow education has been increasing in recent years. About 25 papers per year were published between 2009 and 2019 compared with ten papers a year in the previous ten years. Authors from the United State wrote about half of all papers published but their focus was mostly on the United States rather than the international context. Of the remaining papers, that were not from the United States, the majority of those published in recent years were written by and about Asian countries. The number of research papers about countries of Eastern and Western Europe has increased in the past ten years but their number is less than half as many as the number of publications about and by Asian countries. These trends in research interest are good indicators of the general increase in many countries about the nature and condition of the various forms of shadow education.

The development of research methods and data collection about shadow education has advanced somewhat in spite of the fact that shadow education is beyond the control of governments. Researchers of shadow education are trying to develop new models of methods for describing the experiences of students in tutoring settings through conducting of surveys and interviews with teachers, parents, students and other stakeholders. Some studies have focused on the scale, nature and implications of shadow education; also, on teacher-tutors' or professional tutors' identities. Many of them looked at how shadow education exacerbates social inequalities and contribute to deprivation of the rights to free education. Some studies looked at the motivations of students, parents and teachers for participating in tutoring. Some looked at the long hours of study, remarking on study burden and over-scheduling of children, thus studying psychological aspects of it. The dominant research question across countries still explores the effectiveness of shadow education in relation to school performance, a relationship which is hard to establish.

## **7 CONCLUSION**

The authors of this essay have conducted deep dives into the study of shadow education in its various forms. They indicated multiple blurred boundaries that require more scholarly attention. The number of comparative education researchers examining the causes and consequences of shadow education around the world is evidently increasing. Yet, the ebb and flow of student choices of outside school learning cannot be described with easily obtainable statistical measures or even fully developed rich descriptions across countries. This fascinating aspect of student learning and teacher participation has lied outside of attention from policy makers and scholars perhaps due to multiple reasons, including sensitivity of topic and informal nature of the phenomenon in some contexts, problems with collecting reliable data, blurred boundaries of public

and private, difficulty in definitions of its multiple forms across cultures, etc. Looking at emerging literature from the field internationally, it seems that the educational and business aspects of shadow education together with new forms of virtual learning will likely become a larger portion of educational research in the future.

## NOTES

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<sup>1</sup> Information about validity and reliability of PISA surveys will be explained in the following sections.

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