

# Analysis of the Advantages and Disadvantages of ILSAs in Developing Countries: A Case Study of China

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## Abstract

The International Large Scale Assessment (ILSA) is now widely recognized as an important tool for capturing the quality of education in a country or region, and it provides a platform for both developed and developing countries to reflect on and improve education. However, the effectiveness of ILSA has been criticized for underrepresentation due to domestic and international complexity, which also poses risks and inequities for some developing countries. This paper critically analyzes the benefits and drawbacks of ILSAs for developing countries with the example of the Programme for International Student Assessment (PISA) in China and attempts to establish a link with Bourdieu's Capital Theory. This essay concludes with suggestions for ILSAs and further studies that more effort needs to be put into compatibility with internationalization and localization.

**Keywords:** International Large Scale Assessment (ILSA), Programme for International Student Assessment (PISA), developing countries, advantages and disadvantages

## 1. Introduction

The International Large Scale Assessment (ILSA) in education was initiated at the end of the 1950s and provides a summative assessment regarding the academic performance of a typical sample of students in certain countries in an international context (Kamens & McNeely, 2010 cited by Waldow and Steiner, 2019). ILSAs such as the Programme for International Student Assessment (PISA) and the International Mathematics and Science Study (TIMSS), compare the educational performance of students from different countries through

standardised tests of some specific subjects, so as to shed light on their educational policies (Kirsch et al., 2013 cited in Maddox, 2018). Nowadays, ILSAs have gained the attention and participation of an increasing number of countries and regions (Wagemaker, 2020).

However, for the current international large-scale education assessments, it still exists the issue of global inequality between developing and developed countries (Maddox, 2018). This kind of inequality disparity could be seen in the assessing process, and the reference value of ILSAs in developing countries such as

China has also been criticized for the difficulty of taking domestic and international complexities into account. Hence, it is necessary to explore the assessment issue in developing countries in detail. The research aim is to exploring the benefits and negative effects of ILSA in developing countries. To achieve this research aim, this paper adopts the case study as the research method, selecting China as the study case. This essay includes one research question: what are the advantages and disadvantages of ILSA for the education of developing countries?

This essay argues that ILSAs can provide a platform to identify problems and improve education, although their rubrics are developed by organizations that headed by developed countries. However, it also has the issues, such as ignoring the regional inequality in one country and the fact that strategies in developed countries may not be adapted to education in developing countries. Therefore, this essay includes three parts. Firstly, this essay will critically review the key concepts and theories related to the topic. Secondly, the author will present the analysis of PISA in the Chinese context, to demonstrate the positive and negative impacts of ILSA. Thirdly, based on the negative impacts shown above, this part will present some reflections of previous studies and point out the research gap to briefly give a conclusion.

## **2. Previous literature on ILSA and Education Inequalities**

ILSAs provide a valuable opportunity for educational comparison, reflection, and reform between countries. Meyer and Benavot (2013 cited in Maddox, 2018) highlights the importance of ILSAs by suggesting that they can promote international interaction and globalization within educational comparisons. Smith (2016 cited in Maddox, 2018) adds to this in detail that ILSAs may also drive policy change at the national level, draw attention to the quality of teaching and learning at the school level, and may even accelerate curriculum reform. Recently, with the growing international attention on ILSA, there is a stricter requirement regarding the impartiality of its outcomes (Maddox, 2018). In order to render the assessment as unbiased and credible as possible, some ILSAs apply strategies that are widely recognized in the assessment (Wagemaker, 2020), for instance, using the highly recognized

assessment standards in the United States, which are set by authoritative organizations including the American Educational Research Organization and the National Council on Measurement in Education (Crooks et al., 1996 cited in Wagemaker, 2020), as well as finding a representative sample for scientific sampling (Waldow & Steiner, 2019). In addition, ILSAs ensure that the same assessment content is released to students in different countries at the same grade level and that the questions are professionally translated into the respondents' native language (Rocher & Hastedt, 2020 cited in Hanna, 2022).

Although ILSAs have taken steps to enhance their quality, validity, and fairness to some extent during evaluation, their standards and process remain controversial. Firstly, the standard set by the authoritative organizations mentioned above can be considered more rigorous, but the assessment criteria were established at the end of the last century. In this case, these criteria may be outdated and different from the situation of globalization today. At the same time, there is a lack of literature to prove the feasibility of this standard in the countries newly involved in the ILSAs. Secondly, the misleading nature of the ILSAs' outcomes was proposed by the National Academic of Education (Singer et al., 2018 cited in Wagemaker, 2020), which may potentially have a negative effect on their reference value and misguide the educational reform (Lockheed & Wagemaker, 2013). Thirdly, as the growing number of participating countries, the heterogeneity and complexity of education and culture among different nations is becoming a new challenge; for instance, the international differences such as language, religion and education policy, and internal diversity of some countries like China (IEA, 2020b cited in Wagemaker, 2020).

Moreover, some researchers also revealed that countries with more developed economy and advanced educational system show more enthusiasm for ILSA (Robitaille & Garden, 1989 cited in Wagemaker, 2020). In addition, there is a significant correlation between student academic achievement and economic growth of the country (Hanushek & Woessmann, 2011 cited in Mazurek, García and Rico, 2021). These factors may contribute to the difficulty for developing countries to keep pace with developed countries. It is worth mentioning that

this phenomenon might consistent with Bourdieu's Capital Theory.

In Bourdieu's theory of capital, cultural capital is comprised of objectivized cultural capital (newspapers, textbooks), institutionalized cultural capital (degrees, certificates) and incorporated cultural capital where values, preferences, and beliefs are formed through long-term education and socialization received since childhood (Djojosoeparto et al., 2022). When presented in the form of cultural capital, Bourdieu (1986 cited in Greenspan, 2014) elaborated, capital can institutionalize educational resources; in this case, the features such as ethnicity and beliefs that people have developed during their long education from childhood could be influenced by capital and reflect the language or cultural tendencies which belong to the elite social class. Further, in the process of socialization, people's preferences, values and other cultural capital will be gradually converted into habits, and people who receive different cultural capital have different habits (Djojosoeparto et al., 2022). Eventually, the differences in habits may cause people to form different groups, which may strengthen the gap in resources and levels between groups (Djojosoeparto et al., 2022). e.g., the gap between developed and developing countries in terms of educational resources and education levels.

Bourdieu's theory above can be reflected in ILSAs where some arguments point out that ILSAs that are dominated by developed countries and based on standards established by organizations in which developed countries are major members may potentially capture the cultural characteristics and preferences of developed countries (Wagemaker, 2020). Therefore, it is reasonable and necessary to think about the extent to which ILSAs can benefit education in developing countries.

### 3. Analysis of ILSA in the Chinese Context

As more and more countries participate in ILSAs, China has also participated in the assessments. Considering the limited amount of literature discussing ILSAs in China, and PISA is more extensively applied in China, this section discusses the application of ILSAs in China specifically using the Programme for International Student Assessment (PISA) as an example.

Currently, the collaboration between China and PISA has increased significantly in recent years

(especially after 2000), with Jiangsu, Guangdong, Shanghai and Beijing involving in the PISA in addition to Hong Kong and Macau (Liu, 2019). As a widely accepted and credible ILSA, the PISA assesses 15-year-old students from multiple countries on a three-year cycle in three subjects: mathematics, reading and science (Meng, Qiu & Boyd-Wilson, 2019). After the introduction of PISA in China, a growing amount of media, publications and citizens took notice of PISA, which triggered some controversies that as some voices criticized and reflected on Chinese education through the assessment results, others proposed the limitations of PISA (Liu, 2019). However, current insights on PISA in China are not sufficient and thorough (Lockheed, 2015 cited in Liu, 2019), so further exploration of this issue is necessary.

Through previous experience, the advantage of ILSAs is that it provokes reflection among stakeholders and thus contributes to the promotion of the education policy. By comparing assessment results, students' deficiencies in skills and learning abilities, such as critical thinking, can be identified (Shahjahan & Torres, 2013 cited in Li et al., 2021), thus pushing educational policy makers, schools, teachers and students to make improvements (Li et al., 2021). Taking China as an example, Tan (2019) explained that PISA has not only identified the existing problems in Chinese education regarding students' excessive academic burden which has promoted educators' reflection, but also has provided confidence and authoritative evidence for China's education reform. In more detail, 2012 PISA's data analysis is served as an important basis for the Shanghai's Gaokao (Chinese college entrance examination) reform, changing the traditional pattern of college entrance examination. Besides, Shanghai education authority acknowledges that PISA is informative for a Shanghai's educational initiative called the New High Quality School (Tan, 2019). Moreover, it's worth mentioning that while some opponents believed that Shanghai's Gaokao reform had not had a substantial impact on reducing students' studying workload, the Vice-President of Shanghai Municipal Education Commission suggested that it would take a period of time for the effects of the reform to be apparent (Peng, 2013 cited in Tan, 2019).

Furthermore, other advantages of taking PISA in China are also gradually being identified. Firstly,

it may be beneficial to the international standing of developing countries when they perform well in ILSAs. As an example, Shanghai, China, ranked relatively high in the 2009 and 2012 PISA (OECD, 2010, 2014a,b cited in Tan, 2019; Sellar & Lingard, 2013), which caused surprise and widespread concern among some developed countries (Sellar & Lingard, 2013). As such, it could be a valuable opportunity to break the stereotype of backwardness and achieve a greater voice in the international arena. Secondly, ILSAs such as PISA, which are non-profit and cost-funded assessments can ease the financial burden on low-income countries and provide them with an opportunity to understand the strengths and weaknesses of local education (Wagemaker, 2020), although some research has shown that the conduct of ILSAs are influenced by stakeholders' attitudes towards assessments, as they may be more supportive of assessments when the benefits outweigh the losses (Li et al., 2021).

However, the issue of a relatively small representative sample may place a constraint on the informativeness of ILSAs outcomes. The lower representativeness does not mean that the sampling method of ILSAs is not rigorous enough, but that in some countries only a few cities participate in the assessment, and the status of education in these few cities may not be representative of the true level of education in a country as a whole, such as China. China is a country with internal complexities, and some studies have found that inequality issue in China is tending to increase (World Bank 2009 cited in Shi, 2013; Zhang 2010 cited in Shi, 2013), both economically and educationally. This kind of economic and educational inequality can also be analysed through Bourdieu's capital theory which has been mentioned before. In Chinese underdeveloped regions, the lack of economic and cultural capital has negatively impacted them to keep up with modernized education approach. To be more specific, Shi (2013) clarified that even though children in poor areas of China have equal and free access to basic education, poor families still suffer from educational poverty as a result of economic deprivation. Besides, in China, educational resources tend to be allocated preferentially to a small number of key schools in the city (Hannum, 1999 cited in Shi, 2013), and this is still the case today. Based on previous statements, it can be inferred that the education

gap between developed cities and remote areas in China could be significant, and the inequalities of educational resources may lead to the differences in the academic competence of students from different regions.

To give a detailed example, in 2018, China ranked first in reading in the PISA (Khine et al., 2022), and the PISA also suggested that reading needs to adapt to the current environment of digital feature (Schleicher, 2019 cited in Khine et al., 2022). However, this data is only based on the sample collected from students in Beijing, Shanghai, Jiangsu and Zhejiang, which belong to China's first-tier cities and developed provinces. Students from these places are most likely to enjoy more advanced educational resources than those in remote areas, thus the question arises: Can the PISA ranking of the (B-S-J-Z) China reflect the real reading literacy of students from other parts of China, especially those from less affluent areas? Does the advice from PISA on digital reading really apply to the state of education elsewhere? The experience from the author might suggest a negative answer. As a student majoring in education during undergraduate years, I have learned some strategies from top schools in Shanghai, for instance, applying modern educational technology (including digital learning) and encouraging parental involvement. However, when I worked as a volunteer teacher in a rural region of western China in 2021, I found that a certain number of schools did not have electronic devices to support digital learning; besides, most of the children were left-behind children without parent's accompany, which meant that those teaching methods in developed cities were not feasible in rural places. Therefore, combining the previous literature and the authors' experience, the argument that there are limitations to the representativeness of the PISA data stands to reason. Eventually, some low-income developing countries may face the same dilemma as remote areas of China: advanced education strategies in developed regions may not match the local situation because educational resources in rural areas, such as equipment and teachers, cannot match those in developed regions. As a result, ILSAs would be more likely to benefit developed regions, while less developed regions that have difficulty adapting to the new strategies would be pulled further away and thus suffer inequity.

In addition to the internal complexity that leads

to the limitations of ILSAs' reference value in terms of representativeness and feasibility, the external complexity, namely international differences may also have the similar problems thus causing inequality, especially with the media exposure. Present day, a certain number of media have focused more on reporting superficial nations rankings rather than on the valuable insights from PISA's data analysis, and this misplaced focus has potentially led to an amplification of the differences between countries and an overlooking of implications from the test (Sellar & Lingard, 2018). Additionally, the exaggerated public opinion spread by media may also cause the social anxiety and passive emotion to local education in some low ranking countries (Sellar & Lingard, 2018). Therefore, it may detrimentally affect the educational improvement and run counter to the original intent of ILSAs. Consequently, even though the usefulness of the ILSAs' data is undeniable, the backlash caused by media is widely problematic. This calls for a reconsideration of whether the rankings and data of the ILSAs represented by PISA are really informative to a large extent.

Furthermore, the way of applying the teaching methods of highly ranked individualistic Western countries to a collective background of education in China or other developing countries should also be reconsidered. Indeed, the high ranking in PISA is considered a role model for low-ranking countries when considering cultural differences may cause some issues. Based on the database of PISA in 2015, Meng, Qiu and Boyd-Wilson (2019) investigated and compared Chinese and German students' performance and interest in ICT. The researchers revealed that the data of the two countries differed significantly, which could be explained by cultural differences. To explain, while Chinese students who are collectivists concerned more about getting high grades, German students who are individualists studied more for interest and did not care as much about grades. This study provides insight that a fallacy may arise when cultural differences and other characteristics of different country are set aside to interpret the ILSAs rankings and data. Thus, it remains questionable that whether the recommendations provided by ILSAs can be applicable to education in countries with different cultural backgrounds in the context of international complexity.

Overall, by reflecting on previous studies, ILSAs, represented by PISA, has made great contributions to international development. It makes a relatively equal assessment and feedback on the educational situation of each country, helps both developed and developing countries to better identify the weaknesses and promote their policy, becoming the evidence to rationalize the educational reform. Nevertheless, even if a small number of developing countries can gain a good international reputation through their surprising success in ILSAs, the researcher's idea mentioned above that economic backwardness may lead to educational backwardness suggests that most low-income developing countries would find it difficult to rank high in ILSAs. What's more, China's success in PISA may come from the fact that it only selects developed regions for assessment, and such representative limitation may have a negative impact on the authenticity of PISA rankings and the validity of results. Further, the internal complexity and international differences make the ILSAs' results seem less informative and more controversial, yet the media's excessive focus on and misinterpretation of the rankings. As a result, it may lead countries to having a negative attitude toward local education (Sellar & Lingard, 2018) and blindly adopt educational strategies from other countries that do not fit their own circumstances.

Faced with the challenge of reference value brought by domestic and international complexity, what attitude should developing countries adopt to face ILSAs? As Tan (2019) describes it, Chinese education officials, after reflecting independently on PISA's 2012 findings, came to the point that the amount of schoolwork for students was reasonable. Nonetheless, they also expressed concern about the excessive burden of schooling noted by PISA and made improvements. The China's leader of PISA, in the words of "to participate in order not to participate", claimed that China is learning the advanced techniques of assessment system from PISA, so as to create their own system (Fan, 2014 cited in Tan, 2019). It can be seen that China's approach is to critically learn from its advanced assessment system, rather than directly replicating the PISA's conclusions. Therefore, despite the positive impact of China's attitude toward PISA is rarely documented in the previous literature, it is still worth learning

critically. Specifically, while utilizing ILSAs to identify its own problems, China has absorbed the practices of ILSAs and applied targeted strategies to develop locally adapted education.

#### 4. Conclusion

In conclusion, ILSAs can be an opportunity for both developed and developing countries to update their self-perceptions and undertake educational reform, but the media's overemphasis and misunderstanding of the rankings may put most low-ranked developing countries in an awkward position. Besides, owing to resource imbalance or cultural mismatch, ILSAs are more likely to benefit developed regions, while a certain number of developing countries, especially low-income countries and remote areas, are likely to struggle to benefit from ILSAs, thus exacerbating disparities and inequalities in education. At present, some literatures have critically analyzed the ILSAs' reference value and effectiveness, and the borrowing behavior of educational strategies by pointing out the ILSAs' challenge of the complexities within and between countries, such as cultural, ethnic and policy differences. However, while current research has focused less on developing countries' strategies for balancing internal and external diversity, future research needs to focus more on developing countries' approaches to achieving equality and benefits from ILSAs as well as localized education strategies.

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