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Why do we need to consider the ILSA results in reviewing the program design of pre-service teacher education in the Philippines?

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http://international-assessments.org/why-does-pisa-appear-to-be-everyones-solution/

This policy brief outlines the need to consider the results of International Large-Scale Assessments (ILSA) in reviewing the program design of pre-service teacher education in the Philippines. Similar to the experiences of other countries, the motivation for joining ILSA varies but usually centered on two perspectives: dissatisfaction with the current education system and confidence in ILSA as sources of best education practices. At the heart of both perspectives is the desire to improve the education system. In every planned instructional reform, the pre-service teacher education as the foundational building blocks of teacher preparation should play a critical role. Since the Philippines through the Department of Education has recognized the value of ILSA as a necessary source of feedback for improving the basic education system and the K-12 curriculum, Teacher Education Institutions (TEIs) should see this as a signal to consider ILSA in the review and improvement of their curriculum. Although there is a very limited literature written on the relationship between ILSA and Philippine pre-service teacher education, available studies glaringly show that the current teacher education curriculum cannot completely provide what ILSA expects from the learners. Considering ILSA in the program design of

pre-service teacher education is not meant to be an ILSA-serving decision. It is simply a recognition of ILSA's ability as an available assessment tool to provide feedback with the goal of improvements in education. The brief recommends considering the key competencies emphasized by ILSA and the ILSA results in reforming the program design of teacher education in the Philippines.

There is a need to consider the results of International Large Scale Assessments (ILSA) in the program design of pre-service teacher education in the Philippines for various reasons: the decision of DepEd to use the ILSA results as a mirror of its education system and the performance of the Philippines in ILSA.

The decision of DepEd to participate in ILSA can be framed in one critical model motivating countries to participate in ILSA: Kijima's (2010) rational choice model. In this model, countries participate in ILSA to strengthen their reputation internationally and to inform policies leading to educational reforms (Johansson, 2016). Malaluan (2021) argues that the "objective [of the DepEd in participating in PISA] was to look in the mirror and find out how our learners compared with the rest of the world, and to generate important data to deepen our understanding of the major factors that impact student performance." The rational choice model is also captured in DepEd Order No 29, series of 2017 or the DepEd's Policy Guidelines on System Assessment Policy in the K to 12 Basic Education Program which explicitly rationalizes DepEd's participation in ILSA studies. This model is illustrated in recent attempts to education reform that will be expounded in the brief.

The ILSA traces its origin in the 1950s when the United Nations Educational, Scientific, and Cultural Organization (UNESCO) came up with administering a common assessment tool across different countries. Currently, it has already ballooned into several ILSA programs namely Program for International Student Assessment (PISA), the Trends in International Mathematics and Science Study (TIMSS), the Progress in International Reading Literacy Study (PIRLS), International Civic and Citizenship Education Study (ICCS), and the International Computer and Information Literacy Study (ICILS). From its inception in the 1950s, the needs and purpose of ILSA has already evolved into giving macro-perspectives and indicators of quality education and the future workforce in the global arena.

In Germany, for instance, the results of PISA 2000 and the "PISA shock" that followed revealed that the youth are performing below the expected average of the Organisation for Economic Co-operation and Development (OECD). The stir prompted Germany to embark on inventive structural changes that started with improved access for early childhood learning. They also paid attention to pre-service teacher education and in-service training. They also sought solutions to the current state of professional teachers, which at that time, was composed of an over-aging, burned-out, unmotivated, and ill-equipped teaching force. Overall, Germany's effort was centered on improving teacher quality through competitive selection, state-based examinations, training, and certification. Peru, similar to Germany, after recognizing an educational crisis, has had progressive responses to ILSA which culminated in an increase in all PISA literacies. This is a big improvement since they ranked the least out of 65 countries. At the core of their reforms are: (1) improvement of teachers' career; (2) promotion of quality for all; and (3) closing the infrastructure gap. On the other hand, Indonesia has made curricular-centered reforms since they first joined PISA and TIMSS in the early 2000, however, there is still little impact on their improvement. It goes without saying that much has been at stake in ILSA so much so that it has had encompassing effects to educational policies and reforms, and also school and systems governance – paving the way for an evidence-based turn in national education systems.

In the Philippines, the country's first involvement with ILSA goes back to 1999 when it joined TIMSS. Recently, the Department of Education (DepEd) has recently explored PISA in 2018 as a way to evaluate the fitness and global compatibility of the K-to-12 program which has now run for almost a decade. With respect to these developments, this paper looks into overlapping concerns that deems it worthy to evaluate ILSA and eventually to be integrated in the pre-service teacher education in our pursuit of quality education.

Performance of the Philippines in ILSA

Reading Literacy. In the latest PISA performance of the Philippines, the results were not comforting since we ranked the least among 79 participating countries and fifth out of the sixth Southeast Asian countries. Ideally, PISA notes that reading literacy entails the ability to find, compare, contrast, and integrate information across different sources (OECD, 2019). A comparable definition from the Southeast Asia Primary Learning Metrics (SEA-PLM) provides a more functional approach to literacy where it emphasizes that reading literacy must meet personal, societal, economic, and civic needs (UNICEF & SEAMEO, 2017). Quite alarmingly, Filipino students performed 140 points lower than OECD average which translates to the inability to identify the main idea of a text of moderate length, difficulty in making comparisons, and connecting schema with the information of the text.

Mathematics. Similar to reading, ILSA such as the SEA-PLM and the TIMMS sets mathematical numeracy as something practical to everyday use and the ability to apply mathematical content, facts, procedures, and skills to solve real-world problems. In PISA, 19% of Filipino students reached level 2 which means they can independently interpret and recognize simple situations modeled mathematically. A meager 1% made it to Level 5 which requires the ability to deal with complex problems, at the same time, select, compare, and evaluate strategies in solving real-life problems (OECD, 2019). Overall, our general performance is significantly lower than the OECD

Science. In the 2018 PISA, the average Filipino score for scientific literacy is 357 which is significantly lower than the average OECD score of 489. This means that 15-year old Filipinos can only use basic science knowledge to explain various scientific phenomena. They also need guidance to construct sound scientific inquiries with two variables. In general, four out of five students fall under this category which makes us lag behind our regional counterparts in the ASEAN. A PNU report (2020) argues that, aside from the inherent weakness of our education system, this performance is due to the fact that students are not used to computer-based examinations which also limits certain subject-based skills such as decomposition and partitioning.

ILSA and the Basic Education Curriculum

Reading Literacy. Romero and Papango (2020) in the PNU report asserts that there is a 100% degree of alignment of competencies between PISA and K-12 despite the low performance. They situate the problem in the difference in the nuance and interpretation of certain skills which breeds disparate instructional priorities. For instance, there are skills that generally state "locating information" while PISA-based skills employ "locating information in three different websites." This predicament has big implications to the nature of the text and therefore the skills and attitudes needed to navigate such, more so, three different websites. In fact, in the Romero and Papango study (2020), they state that the K-12 English curriculum even has a surplus of competencies which means that alignment does not necessarily yield better performance. They also added that there are skills between the Philippines and K-12 which do not have a one-to-one correspondence, therefore, is in need of "ease of interpretation."

Mathematics and Science. Golla and Reyes (2020) observed that there is a high degree of alignment between PISA and the Philippine Math Curriculum. However, there are concerns such as minimal explicit coverage for certain mathematical processes, lack of emphasis on empirical results, and different instructional interpretations in content knowledge, mathematical processes, and contextualization. The case of alignment for Mathematics is almost the same for Science where in the TIMMS, 73 competencies or 61% were covered in the curriculum of the latter. However, Balagtas, Garcia, and Ngo (2019) noticed that "as a whole, math is more aligned to TIMMS than science." With regard to PISA, Belmi and Mangali (2020) pointed out that certain topics such as sustainability, population growth, and carrying capacity were not present in the Grade 8 science curriculum. Particular parts of the spiral curriculum such as physical changes of matter would only be reinforced in Grade 8 from its introduction in Grade 3. There are also no topics for the history of the universe and history of

the earth which are test items in PISA. In broad strokes, findings in Math and Science prove that there is a need to distribute and cascade topics across grade levels.

Gaps in the training of prospective teachers and the current needs in basic education

Although the 1987 Philippine Constitution mandates that the biggest budget allotment should go to education, a recent study reveals that the government is underinvesting in education, dipping at 2.8% (from at most 3.8 in 1998) relative to the gross domestic product in 2019. The same study underscored the need to double its education spending to increase reading proficiency by around 10% from its present levels and to quadruple it to reach the average global level (Albert *et al*., 2021). Aside from budget spending, here are the fleshed out gaps found in the education system.

Lack of involvement of teacher education institutions in basic education instructional reforms. The quality of teachers in the basic education sector is hugely influenced by the kind of pre-service teacher education they received in TEIs. Ideally, the instructional reforms the DepEd wants to implement in basic education should be addressed by the TEIs as the provider of teachers in the field. The active participation of TEIs will strategically ensure that the army of teacher graduates meet the needs and standards required in the field.

Failure to recognize teacher education continuum in addressing instructional reforms. Teacher education does not end in pre-service teacher education. It is a continuum that begins with initial teacher education and continues throughout early and continuing professional development of in-service teachers. The professional development of teachers where in-service training falls should address instructional reforms initiated by the DepEd.

Lack of focus on reading, math, and science literacies and use of instructional materials covering ILSA-competencies in the revised curriculum. The DepEd has started reviewing the K-12 curriculum and is likely to point out the strengths and weaknesses and the possible improvements it will adopt and implement to ensure effective delivery of basic education. For the initial review, experts have put forth major suggestions such as reducing the number of learning competencies but at the same time ensuring that prerequisite skills and knowledge are built systematically from one grade level to the next. Another suggestion is the need for the enhanced curriculum to address competencies catering to high cognitive demand expectations where likely ILSA-related competencies could come in.

Current initiatives of DepEd in responding to the ILSA

As of writing, there are three main programs which DepEd embarks on to respond to ILSA:

1. The crafting of Professional Development Program on Assessment and Emerging Literacies which targets improvement assessment in the junior high school level subjects on English, Science, and Math (DepEd, 2021);
2. The formation of a consortium with TEIs and other external stakeholders (e.g. the Philippine Forum for Quality Basic Education [Educ Forum]) to create an inclusive and responsive professional development plan (DepEd, 2019a); and
3. The creation of a PISA Readiness Toolkit (DepEd, 2022b).

ILSA and the pre-service teacher education curriculum

Among the countries that joined ILSA, the results have become a major assessment tool utilized by policy-makers to (1) gauge their learners' competencies especially when compared with those of other countries (2) serve as benchmarks for educational improvements and reforms e.g., mean scores and educational outcomes and opportunities and (3) help understand the strengths and weaknesses of their education systems (OECD, 2009). The usefulness of ILSA for data-driven and evidence-based policy inputs has been recognized by the DepEd itself. For DepEd, system assessments such as PISA "provides the necessary feedback to inform policy decisions and reforms"and this can be purposefully used for "measuring the effectiveness of instructional reforms"

(DepEd, 2022a). Although the basic education sector employs the teachers and is also expected to provide professional development programs for them, the pre-service teacher education (PSTE) programs serve as the foundational building-blocks for career-long professional development of teachers. The PSTE received determines the teacher performance and competence once the pre-service teachers become part of the basic education sector. In short, the PSTE is extremely important in providing qualified teachers in the classrooms (USAID, 2011). It is in this context where the program design of pre-service teacher education can be informed by ILSA results and the key competencies they underscore.

What does the Philippine ranking in various ILSA tell us about what we teach and how we teach? In PISA for instance, what kind of skills and knowledge does it measure in Reading? If Reading literacy in PISA assesses the ability of 15 year old students to "understand, use, evaluate, reflect on and engage with texts in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society" and the Filipino students ranked poorly in the test is it not a prompt to reflect on what is it the teachers teach our students and how these competencies are taught? As far as the K-12 Curriculum is concerned, this is also what it aims to be developed among Filipino learners. The DepEd Order No. 21 Series of 2019 or the Policy Guidelines on the K-12 Basic Education Program, the K-12 curriculum is envisioned to graduate "holistically-developed Filipinos who have built foundations for learning throughout life. They are individuals equipped with information, media and technology skills, learning and innovation skills, life and career skills, and communication skills necessary to tackle the challenges and take advantage of the opportunities of the 21st century" (DepEd, 2019b).

Although it can be useful as experienced by ILSA-high performing countries, standards and evidenced based education, such as ILSA, is not infallible. Shahjahan (2011) was quick to note that this movement has strong remnants of colonial and Eurocentric discourse as it only turns out to be a new mode of surveillance. There is also a growing sentiment that positivistic and quantitative methods have been a superior recourse to data collection and policy justification. Shahjahan (2011) also pointed out that standards and evidence- based education has been subservient to transnational organizations such as the World Bank, International Monetary Fund, and World Trade Organization to champion their neoliberal agenda. However, despite quite a number of criticisms due to its highly political nature, it seems that the world has yet to see a large-scale assessment tool that can be as informative as ILSA in evaluating the existing education systems.

Currently, there is a limited number of studies exploring the relationship between ILSA and pre-service teacher education in the Philippines but the study conducted by Belmi and Mangali (2020) already pointed out the need for specialized training for teachers handling various topics in the spiral science curriculum. A more detailed study of Balagtas (2021) explores the alignment of CHED Curriculum for Math pre-service teachers. It discovered that (1) there is limited application of PISA mathematics and financial literacy for various contexts; (2) it does not seamlessly accommodate collaborative problem-solving processes of PISA; and (3) it does not explicitly cover the development of written and visual creative expressions and creative thinking framework. With these concerns, Balagtas (2021) recommends to (1) update the current pre-service curriculum; (2) strengthen content knowledge, cognitive processes, 21st century skills as they are applied in various contexts, and (3) inclusion of financial literacy.

Recommendations for policy and practice

Factoring all these positions, this policy brief recommends the following:

1. *The Philippine education system must abide by evidence-based studies*. Here, we see empirical and high-impact evidence becoming the fulcrum of every policy reform on school governance and leadership. Suffice it to say that scientific means are made available to inform the logical steps in achieving quality education;
2. *K-12 Curriculum reform and the subsequent retooling of in-service teachers.* While reforms have been ongoing in this decade-long program, it is high time that we implement these curricular updates mindful of ILSA-triggered concerns and the pandemic. Instructional materials should also follow these aggregate

changes; Retooling and upskilling of in-service teachers through a well-crafted professional development program focused on content and pedagogical knowledge improvements;

3. *As teachers are at the forefront of these reforms, they should be kept abreast of the directions that the DepEd will embark on.* Policies on these reforms should be crafted through a bottom-up approach involving all stakeholders;
4. *Inclusion of teacher education institutions in basic education reform.* The German and Peruvian models of ILSA improvement demonstrate that teacher quality yields high benefits for improving the education system. Thus, it is only a sound step that we begin to integrate the pre-service education sector to any systemic directions we wish to pursue; and
5. *Conduct further studies on ILSA and teacher education to serve as baseline data in the review of the pre-service teacher education curriculum*. Consistent with the evidence-based turn in education, ILSA results and key competencies must influence the way we form and train future teachers. The TEI curriculum, especially in reading, scientific, and mathematical literacies, must respond to global demands of 21st century education. At any rate, the goal is to secure quality education right from the beginning.

Conclusion and future directions

At any rate, ILSA results are a good tool to assess national education systems with particular emphasis on quality education and the future workforce. Philippine results have not been comforting and are a big blow to our global reputation. The problems afflicting the education sector are massive and therefore require huge solutions as well. A "band-aid" approach cannot solve them; instead, a systems approach can be the best alternative where the interrelated and interdependent parts of the education sector are considered. The pre-service teacher education is a very important part of the system. It is high time to make their curriculum responsive to real and global demands particularly in areas of reading, science, and math. We also have to come to terms with ILSAs. Although with their own share of limits and criticisms, ILSAs still offer a substantial benchmark to gauge the education system across the world. In the end, benchmarks and standards should help us achieve education equity and inclusivity.

In view of the growing importance of ILSA to educational policies, Teacher Education Institutions (TEIs) will have to review how their teacher education curricula contribute to raising the quality of education Filipino learners receive. Although a number of ILSA competencies might have already been part of the teacher education curricula, targeted identification of these competencies and the formulation of a framework or design for their deliberate inclusion will make the curricula more responsive to the demands of ILSAs. Also, we have to reframe attitudes and motivation regarding ILSAs. PISA and other related examinations reflect our overall educational performance as a nation, however, our long term goal for quality education must not be tied merely to achieving better scores. Quality education must first and foremost be directed to improving the quality of life of the Filipino people.

References

Albert, J. et al. (2021). *We Need to Invest More in Learners, Learners, Learners!* (Policy Notes No. 2021-05). Philippine Institute for Development Studies.

Balagtas, M. (2021). *Responsiveness of the Mathematics Teacher Preparation to the Challenges of PISA*. Philippine Normal University.

Balagtas, M. et al. (2019) *Directions and Competencies Set in International Large-scale Assessments: Input to the Philippine Curriculum Reform*. Rex Printing Company, Inc.

Belmi, R.M. & Mangali, G.R. (2020). PISA Scientific Literacy Framework vis-à-vis the Kto12 Science Curriculum. In M.U. Balagtas & M.A.C. Montealegre (Eds), *Challenges of PISA: The PNU Report* (pp.101-141). Philippine Normal University and Rex Institute for Student Excellence, Inc.

Department of Education (2019a, November 6). DepEd, partners convene at Educ Forum to address quality of basic education. Department of Education.

Department of Education (2019b). *PISA 2018 National Report of the Philippines*. Department of Education.

Department of Education (2022a, March 11). *On Philippines' Participation in PISA 2022*. Department of Education.
Department of Education (2022b, March 11). Supplemental Instructions on PISA 2022. Department of Education.

Department of Education (2021, October 26). *DepEd launches the Professional Development Program on Assessment and Emerging Literacies with focus on PISA.* Department of Education.

Golla, E.F. & Reyes, A.G. (2020). PISA Mathematics Literacy Framework vis-à-vis the Kto12 Mathematics Curriculum. In M.U. Balagtas & M.A.C. Montealegre (Eds), *Challenges of PISA: The PNU Report* (pp.57-100). Philippine Normal University and Rex Institute for Student Excellence, Inc.

Johansson, S. (2016) International large-scale assessments: what uses, what consequences?, *Educational Research*, 58(2), pp. 139-148.

Kijima, R. (2010). Why Participate? Cross-National Assessments and Foreign Aid to Education. In A. Wiseman (Ed.), *The Impact of International Achievement Studies on National Education Policy Making* (pp. 35–61). Emerald Group Publishing.

Malaluan, N. (2021). PISA and DepEd Strategic Directions for Education Quality [slides]. Plenary presentation at the 2021 Regional Conference on Educational Policy and Practice. 10-12 December 2021.

Organisation for Economic Co-operation and Development. (2009). *The Usefulness of PISA Data for Policy-Makers, Researchers, and Experts on Methodology*. In the PISA Data Analysis Manual. OECD.

Organisation for Economic Co-operation and Development (2019). *Programme for International Student Assessment (PISA) Results from PISA 2018*. OECD.

Romero, A.D. & Papango. M.C. (2020). PISA Reading Literacy vis-à-vis Kto12 English Curriculum. In M.U. Balagtas & MA. C. Montealegre (Eds), *Challenges of PISA: The PNU Report* (pp.33-56). Philippine Normal University and Rex Institute for Student Excellence, Inc.

Shahjahan, R. A. (2011). Decolonizing the evidence-based education and policy movement: Revealing the colonial vestiges in educational policy, research, and neoliberal reform. Journal of Education Policy, 26(2), 181-206.

United Nations Children's Fund & Southeast Asian Ministers of Education Organization. (2017). SEA-PLM 2019 Assessment Framework (1st ed.). Bangkok, Thailand: United Nations Children's Fund (UNICEF) & Southeast Asian Ministers of Education Organization (SEAMEO) - SEA-PLM Secretariat.

United States Agency for International Development (2011). *First Principles: Designing Effective Pre-Service Teacher Education Programs*. USAID.

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