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Integrating the Key Competencies of International Large-Scale Assessment (ILSA) into the Teacher-Education Curriculum in the Philippines

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Abstract

This study proposes a framework to integrate competencies from various international large-scale assessments (ILSAs) into the program design of a teacher educational institution (TEI) in the Philippines. Using a descriptive-developmental research design, the study examined how ILSA key competencies can be incorporated into the curriculum, along with practices of outcomes-based educational programs at the TEI. Inductive thematic analysis of focus group interviews revealed one overarching program-level theme: using ILSA as a benchmark for curriculum development. At the micro level, four core themes emerged: (1) strengthened content teaching, (2) increased pedagogical content knowledge (PCK) courses, (3) explicit targeting and teaching of ILSA competencies through course-intended learning outcomes (CILOs), and (4) ILSA-like assessments. The study recommends that the Philippine Department of Education (DepEd) and TEIs collaborate to align pre-service teacher training with global literacy standards, ensuring that pre-service teachers are equipped to teach ILSA-recommended skills.

Introduction

Among high-income countries participating in the Program for International Student Assessment (PISA), studies show that the impact on educational policy and reforms can be direct or indirect (Espinosa et al., 2023). The direct effects could originate from discussions among educational stakeholders at the country level. In contrast, the indirect effects could come from general discussions in broader policy forums, conferences, or the media (Lockheed et al., 2015). With the help of the media, ILSA results have the potential to be catalyst data that can provoke government officials, educational stakeholders, and the public to ask about how the educational systems are performing, and what needs to be done to better their performances (Lingard et al., 2015). The results can also propel countries to learn from the experiences of other countries (Lockheed, et al., 2015).

For instance, following the PISA shock in 2001, which was the poor test-score results of school-aged children compared to those in other countries (Davoli & Entorf, 2018), Germany acted with a sense of urgency, and the PISA results brought large-scale sweeping educational reforms in the country. In the 2018 PISA, results showed that German students performed at above-average levels and were on par with their peers in Norway, New Zealand, Britain, Australia, and the US (Prange, 2019). From the point of view of the OECD, educational reforms that contributed to the impressive recovery and improvement are the excellent quality of teachers and the huge focus on

the initial selection of teachers, state-based examinations, training, and certification (OECD, 2009).

Another country that uses ILSA results is Peru. Its educational reforms started following the 2012 PISA results in 2013. Peru ranked last out of all the 65 countries that participated. Instead of downplaying and justifying the results, the government owned the problem and recognized the educational crisis maligning the country. Peru's educational reforms centred on four lines of action that were pursued simultaneously and comprehensively: (a) revalorization of teachers' careers (highlighting the value of the teaching profession); (b) improvement of the quality of learning for all; (c) effective management of the school system; and (d) closing the infrastructure gap (Saavedra & Gutierrez, 2020).

Peru's educational problems were perceived to be caused by the lack of preparation and commitment of public-school teachers. Since teachers were regarded as an important factor in the teaching-learning process, it was by reforming the teacher career path, attracting talented individuals to the profession, and getting the best possible performance from the current teacher corps that were given focus (Saavedra & Gutierrez, 2020).

Although ILSA results could lead to objective and positive responses under the notion of educational accountability, ILSA is not exempted from the criticisms of experts. Critics view it as a form of international and transnational governance (Zhao, 2020) and not just an education project, but primarily a social, political, and ideological one (Sjoberg, 2015). They also argue that ILSAs may be culturally biased, favouring certain cultural and educational contexts over others (Grøttvik, 2019), and questioned the equity and inclusivity of ILSAs, arguing that they may disadvantage certain groups of students, such as those from low-income backgrounds or with disabilities (Lin, 2023). Additionally, ILSA is viewed by critics as taking advantage of the anxiety and desires of parents and other educational stakeholders regarding young people's ability to face the future, highlighting the dubious claims on ILSA's ability to measure the knowledge and skills needed for current and future times (Zhao, 2020). Additionally, the nature of test design, including its validity and reliability, makes it difficult to compare findings across countries, because of differences in sampling (sampling frames are not the same across countries, since cultural context is considered), coverage, administration, as well as the manner of how the test is constructed. These factors require restructuring to certify the actual accomplishments of the taker. Aside from the said criticisms, the dissimilar test takers' perspectives or motivations about exams and their performance, as they are bound by cultural factors or considerations, are also noted by critics. ILSA primarily assesses proficiency in various content areas, but this is not the only goal of the school system. Schools should also incorporate the development of characteristics such as diligence, empathy, social responsibility, the normalcy of doing manual labour, and other noncognitive abilities (Andrews et al., 2014; Heyneman and Lee, 2012; Organizing Bureau of European School Students Unions, 2019).

In the Philippines, higher educational institutions that opted to implement outcomes-based curricula usually subscribe to Spady's (2020) Outcomes-Based Education (OBE) paradigm. Spady conceptualized that learning outcomes are what learners should demonstrate at the end of a particular program, course, or instructional design (Rao, 2020). The teacher-educational institution (TEI) featured in this study also subscribes to Spady's paradigm. Its curriculum was crafted along the said kind of OBE and contextualized based on its institutional framework, which puts emphasis on the development of an innovative teacher, research scholar, and educational leader. The TEI's OBE program is committed to producing teachers who are discipline-grounded, professionally competent, and innovative practitioners; reflective specialists; humane, ethical, and moral persons;

transformative educators; and critical, creative, and responsible educational technology experts (Ruscoe, n.d.).

In terms of the TEI's OBE specialization outcomes, the following are common across disciplinal program offerings: theories in the discipline, disciplinal content, method of inquiry, pedagogical-content knowledge, and applied knowledge. These dimensions of the program outcomes are visibly achieved through the Course Intended Learning Outcomes (CILOs), which identify how students may manifest their achievements by the end of a specific course, according to preset standards of performance and content. These CILOs are made known to learners at the beginning of a course, and are written in each syllabus to serve as guides for teaching, learning, and assessment tasks (EdUHK, 2022).

The poor performance of the Philippines in the 2022 PISA sparked calls for government educational policy reforms and a renewed emphasis on improving teacher quality (Chi, 2023; Ines, 2023; Montemayor, 2023; PIDS, 2024). Given the growing significance of international large-scale assessments (ILSAs), like PISA, in shaping educational policies, this study aimed to propose a framework for integrating ILSA competencies into pre-service teacher-education curricula. Using the OBE framework of the TEI as a conceptual starting point, the study explored how ILSA competencies can be embedded into the curriculum, along with the practices of OBE programs. The authors of this study are all teacher educators who train prospective teachers. It is agreed that the current TEI teaching-learning practices are not designed to address the ILSA requirements on knowledge, skills, and attitudes. Although a number of these competencies might have been part of the curricula, it is felt that a study targeting the identification of these competencies and formulating a framework for their deliberate inclusion in the teacher-education curricula will help develop one that is more responsive to the demands of ILSA.

In the case of the Philippines, there is a dearth of available literature delving into the perspectives of Filipino teacher educators on ILSA, but there are a few studies that examined the need to consider ILSA and/or its results in pre-service teacher-education programs, one of which is Espinosa et al. (2023), which also examined the state of the Philippines in relation to ILSA. Although it underscored the relevance of considering ILSA results, the study was keen to look at it with ambivalence, citing that educational reforms ought to be motivated by the improvement of the quality of life through quality education for all, rather than driven by market demands (Espinosa et al., 2023). Meanwhile, Balagtas et al. (2020) identified the extent of alignment of PISA content domains and competencies with the K-12 curriculum to identify gaps between the PISA Framework and the K-12 curriculum. Although the study to date offers the most extensive research on PISA in the context of the Philippine educational system, its focus was on the basic educational curriculum, and not on the teachers, something that this study wishes to examine through the teacher-education curriculum, which, in turn, develops future basic education teachers.

In this regard, the study explored how to integrate key ILSA competencies into the curriculum design and practices of TEI's OBE programs and aimed to propose a framework for doing so in pre-service teacher education. To achieve this overarching objective, the study was guided by the following research questions: (1) How can we integrate the key competencies of various ILSA frameworks into the program design (i.e., curriculum design and practices) of the TEI's OBE programs?; and (2) What framework can be proposed for the integration of the key competencies of various ILSA frameworks into the program design of the TEIs pre-service teacher-education programs?

Methodology

A descriptive-developmental research design (Hacker, 1998; Leonesio & Nelson, 1990) was adopted to address the research problems of the study. It is descriptive, because the study aimed to determine and describe how key competencies of various ILSA frameworks can be integrated into the program design of the TEI's OBE programs. It is developmental, because the study also aimed to develop and propose a framework for the integration of ILSA competencies into the OBE programs of the TEI. The research design was implemented in two phases. The first phase involved the collection and analysis of data from select TEI faculty members about their views on ILSA and how ILSA can be integrated into a teacher-education curriculum. The second phase involved the crafting of a proposed framework for integrating ILSA into a teacher-education curriculum.

The site of the study was on the main campus of the TEI. The data-collection approach was focus-group interviews (FGIs) involving select faculty members, who served as participants. Since most of the researchers are in the disciplines of science and languages, participants were selected from the academic clusters of these disciplines to comprise two focus groups. The first one was from the Arts and Languages cluster, while the second was from the Science, Technology, and Mathematics cluster. Both focus groups had four purposely selected participants who were invited to join in the FGIs. The only selection criterion was that the faculty should have had direct involvement in the crafting of the TEI's OBE curriculum. All the participants gave their written, informed consent to participate in the study, and were oriented on its purpose and the FGI. The participants are tenured faculty, with academic ranks ranging from assistant professors (n=5) to associate professors (n=3). The group consisted of an equal number of females (n=4) and males (n=*4*), with ages ranging from 40 to 55 years old.

The FGI questions were developed by the researchers and validated, through peer review, by two experts in curriculum design and curriculum studies from the same TEI. The validated FGI questions were piloted with two TEI faculty members to fine-tune the questions and the flow of the data-gathering procedure. The FGI instrument contains six main questions revolving around the extent of alignment of the TEI's OBE programs, with the key competencies of select ILSA frameworks and the participants' insights on how the key ILSA competencies can be integrated into the program design of the TEI's OBE programs. The following are the FGI questions:

1. What are your ideas about (or understanding of) ILSA? Is it a credible gauge of how the Philippine K-12 curriculum would fare? Why or why not?
2. Is it (ILSA) a good benchmark in recalibrating the teacher education program? Why or why not?
3. On the TEI's CILOS: What are the specific areas of the curriculum that need recalibrating?
4. On how CILOs are crafted vs ILSA competencies: How do we reconcile the broad stipulations of the TEI's OBE curriculum in relation with the very specific competencies of the ILSAs?
5. On outcomes vs content/topic: How is the TEI's OBE curriculum implemented in actual classroom engagement? Is it oriented towards outcomes or is it more inclined on content/topic?
6. How can we ensure that the competencies of ILSAs are explicitly taught in the TEI's OBE programs? How do we make it visible in actual classroom engagement (specifically in…)?
    a. Instruction
    b. Assessment (e.g., performance tasks)

Prior to the FGI, the researchers conducted a brief lecture on ILSA and the TEI's OBE curriculum to provide participants with background information, or refresh their understanding of the topics. Focus-group interviews (FGIs) were conducted online via an online-meeting platform, where two of the researchers served as observers and documented the FGI proceedings, while the other two served as facilitators. Each FGI session lasted for one to two hours. They were all audio-recorded, with the consent of the participants, and were later transcribed. All the audio data and transcriptions were stored securely in devices that only the researchers could access.

Data collected from the FGIs were analyzed through inductive-thematic analysis so that the themes could be identified, which would lead towards the realization of the themes' integration. According to the FGI questions, the themes were broad ideas about ILSAs, ILSA as a curriculum benchmark, TEIs CILOs and curriculum recalibration, juxtaposing TEIs OBE curriculum vis-a-vis ILSA competencies, the actual class experience of TEIs OBE implementation (if gearing towards content/topic or outcomes), and actual classroom engagement of ILSA competencies through instruction and assessment.

The inductive themes underpinning the integration of ILSA competencies into the pre-service teacher-education programs were then used, by the researchers, to serve as a backbone of the proposed framework for the integration of ILSA competencies into the OBE programs of the TEI. After a series of discussions, the framework was finalized through a consensus by the researchers.

Findings and Discussion

One of the main aims of this research is to identify how various ILSA frameworks, specifically their key competencies, can be integrated into the design plan of the TEI agendas. Such integration will ensure that the curriculum and practices of teacher- education programs are embedded with ILSA competencies.

The findings from the inductive thematic analysis of qualitative data from the FGIs yielded one theme, in terms of program-level dimension, and five core themes in terms of micro-level insights. The program-level theme is the inclusion of ILSA as one of the benchmarks or standards for curriculum development or revision. The micro-level core themes are: (1) strengthened teaching of content in the curriculum; (2) increased pedagogical content knowledge (PCK) courses for the teaching and development of ILSA competencies; (3) explicit teaching of key ILSA competencies; (4) ILSA-like assessment of learning; and (5) targeting ILSA competencies through course-intended-learning outcomes elaboration.

Participants' views of ILSA

The FGIs included questions that were purported to identify faculty members' views on ILSA and the integration of its key competencies into the TEI's OBE programs. Although, with a limited understanding of what ILSA is, for example, just limited to the knowledge of the names of more popular ILSA such as PISA, TIMSS, and the subject areas they covered like science, mathematics, and English/reading, at the time of the FGI, the Science and Mathematics group was in favour of ILSA being integrated into the OBE curriculum for various reasons. The group believed that the Philippines needs this kind of assessment, and could be a good standard to gauge the K-to-12 curriculum, but at the same time, needs to exert effort to meet the standards. Although a favourable view was generally held, one faculty member was hesitant to adopt ILSA as a standard, because meeting national standards is already problematic, and more so when ILSA is added as a benchmark.

The Arts and Languages' group, however, had apprehensions about ILSA, due to its origin in the west. Earlier research had similar concerns as to the westernization of other countries' educational systems through standardized testing (Gorur, 2016; Hipkins, 2019; Zhao, 2020). The group especially took note of the language used in the assessment, which could have affected the performance of students who took the test. The following verbatim responses demonstrate this argument:

> *"The results of the PISA last 2018 have something to do with the language used during the assessment, like in Singapore, Malaysia, Hong Kong, Vietnam, the ASEAN countries with good performance in the PISA 2018 [that] used their own language." (male, 54)*

> *"I agree with the language used. The language used during the assessment; what was the language used in learning? Is there an alignment between the language of assessment and that of learning? Isn't it unfair that my knowledge will be measured in a language that I am not familiar with?" (female,42)*

Previous research has aired similar criticisms as to the differential effect of language on item difficulty (Hopfenbeck et al., 2017). Another issue pertains to the contextual, family and/or socio-economic background of students that affect assessment results (Bernardo et al., 2023; Hopfenbeck et al., 2017; Wang et al., 2023), which was also mentioned by one of the FGI participants from the Arts and Languages' cluster:

> *"…the proficiency level of the learner must be considered: Is he/she a slow learner? Where does the learner reside? Near the coastal area? In a cosmopolitan area?...look at the context of the cognitive domain…" (female, 42)*

Research on ILSAs also unearthed the bias toward measuring specific skills and competencies (such as science, mathematics, and reading), while disregarding other subjects (Hipkins, 2019; Hofenbeck, 2017). One of the FGI participants had the same comments on the focus of ILSAs on specific skills and competencies, which renders other equally important skills and competencies irrelevant:

> *"International standardized assessment is highly cognitive. How about transversal skills? I mean, isn't this also part of the conversation, when we assess the whole person, which is the goal of education? One can construct accurate sentences, but may be rude to people when they interact for social interaction." (female, 42)*

Although they have apprehensions about some aspects of ILSA, the group believed that ILSA could provide some inputs for calibrating the teacher-education curriculum. One participant opined:

> *"I think [that] it is one of the best benchmarks that we could do [in order] to really improve our teacher-education program, because we should admit that our science-education program is far from perfect, and we continually calibrate what we can do to our teachers in the country, in order to meet not only the national needs, but also to really compete in the global system." (female, 52).*

Themes on Integrating ILSA into the TEIs OBE Programs

ILSA-benchmarked teacher-education curriculum

The FGI participants from the Science and Mathematics cluster believed that ILSA competencies could be one of the benchmarks to look at in improving teacher-education programs. As ILSA often features assessment in science, ILSA competencies can inform curriculum calibration efforts that would address national needs and meet global demands as well. One of the participants said:

> *"...maybe we will include this one in our next round of review of our curriculum." (female, 52)*

This argument aligns with Rutkowski et al. (2014). They argue that international assessments, like PISA, offer valuable insights into the competencies required in science education and can inform national curriculum reforms.

The ILSA-benchmarked teacher education curriculum would also have incorporated an international perspective, as it improves teaching practices, revises learning objectives, and innovation in assessments. The following verbatim responses demonstrate this argument:

> *"I have to agree with what she said, but I suggest that we, in the Philippines, should look into our own standards first, because I think our standard is much lower, so we look into our own standard first before we consider the ILSA standard." (male, 55)*

> *"I think [that] there is a gap between how we crafted our K-to-12 curriculum that is really based on what the nation needs, and the needs of preparing for future work. It's not really being geared towards competing in any international assessment." (female, 52)*

> *"The international assessments became known after crafting the K-to-12 curriculum, so there is really a gap. Then, there is also this kind of idea [that] it's the teacher, in [the] preparation for how to do it, how to do this type of exam, and we have a different competency compared to TIMMS and PISA, because they wanted to have a skill base. What they mean by skill base is different." (female, 52)*

Darling-Hammond and Lieberman (2012) discuss the importance of incorporating international perspectives in teacher education through cross-national research and assessments, like ILSA. They emphasize that using ILSA benchmarks allows for revising teaching practices, learning objectives, and assessment methods [in order] to align with global standards and innovative approaches to education.

Strong content knowledge in the curriculum

As teacher educators, the FGI participants from the Science and Mathematics' cluster all knew that it was tasked to develop future teachers rich in content, while at the same time, trained in appropriate pedagogical practices. These considerations affect how the OBE curriculum is implemented in the classroom, but it was stressed that content knowledge was very important, as demonstrated by the following verbatim responses:

> *"From my personal observation, [it's] 50-50., We really wanted to deliver the content, as well as deliver what is the learning outcome, and what the expected empowered novice teacher is expected to produce when they graduate, so it's like actually both, for me. It is not only about what the feature of a teacher is, but also trying to really ensure that the content is given to the students, so that they would be ready to teach: to teach with pedagogy and also the content." (female, 52)*

> *"In my classroom, I always emphasize the basic concepts, because I believe [that] anybody can teach a particular topic in any subject, if that somebody has their own understanding or mastery of the topic. What I mean is, we can't say there is a best method, because the most appropriate method that one can employ in delivering a lesson depends on the depth of understanding of the teacher in teaching the topic." (male, 55)*

> "*But I suggest that we, in the Philippines, should look into our own standards first, because I think our standards are too low." (male, 55)*

The same observation was echoed by a faculty member from the Arts and Languages cluster. Although the courses he teaches are not included in the ILSA, he saw the need to ensure that the prospective teachers [that] the TEIs produce would be content specialists too, so [that] they could teach better. The importance of strengthening content knowledge in teacher education is highlighted by Doil and Pietzner (2023), who studied the science teacher-education curricula in Finland, Japan, and Singapore. These countries, which consistently perform well in PISA, emphasize integrating subject-specific scientific content with didactic teaching methods. For example, laboratory exercises are directly linked to subject-specific lectures and seminars, ensuring that practical applications reinforce theoretical knowledge. This approach aligns with the suggestion from a faculty member in the arts-and-languages department, who, though his courses are not part of ILSA, stressed the need for prospective teachers to become content specialists to improve their teaching effectiveness.

The teaching of and development of ILSA competencies among learners through pedagogical content knowledge (PCK) of pre-service teachers

As part of a bigger project, the research team mapped the CILOs of the TEI's OBE syllabi believed to target the development of various ILSA competencies. These syllabi were either content courses or PCK courses. The FGI participants, from both academic groups, observed that the ILSA competencies that were mapped with the CILOs of the OBE syllabi were intended for the development of various mathematical, scientific, and reading skills of basic-education learners. Since they were for students, understandably, the competencies were focused on the acquisition and possession of those competencies. On the other hand, the OBE syllabi CILOs were the learning outcomes (or competencies in some literature) intended to be developed among pre-service teachers. As these learning outcomes or competencies were for students who were preparing to be teachers, they were focused on pre-service teachers' acquisition of content knowledge through content courses, and acquisition of teaching competencies, while teaching content through pedagogical content-knowledge courses.

To facilitate the acquisition of ILSA competencies, among basic education learners, the FGI participants suggested looking at the PCK courses offered by OBE programs. As one participant stated:

> *"Maybe what we should look at [is], 'were the competencies that combine content knowledge… those with pedagogical content knowledge… those competencies that we develop in our students on how to teach…, so those competencies on how to teach those, I mean… is there any articulation in those competencies on how these ILSA competencies are best brought to learners? I think that will make sense, because it will not match, since ILSA measures something else, while our curriculum is for teacher education." (female, 52)*

> *"So, in a sense, what we want is to train our teachers to make sure that they can develop those skills among their learners in the basic-education sector, and that they can equip those learners with the ILSA competencies, right? So, what I am thinking is that we should look at how we will prepare the teachers to teach effectively." (female, 52)*

The participants re-echoed what education science says about the three major aspects of teacher preparation that prospective teachers must go through in their training. They include the teaching of content knowledge and the teaching of pedagogical knowledge to pre-service teachers. Content knowledge refers to the "body of knowledge and information that teachers teach and that students are expected to learn in a given subject or content area" (Santos and Castro, 2021, p. 2). Meanwhile, pedagogical knowledge is the "knowledge about teaching, an understanding of how particular topics, problems, or issues are organized, presented, and adapted to the diverse interests and abilities of learners," (Shulman, 1987 in Mizzi, 2013, p. 2). In short, it involves ways of "representing and formulating the subject or topic that makes it comprehensible to others" (Shulman, 1986 in Mim et al., 2017: n.p.). When combined, the two form the third major aspect of teacher preparation that a prospective teacher should go through, which is the so-called pedagogical-content knowledge (PCK), or the synthesis of what they know about teaching and what they know about what they teach.

One participant emphasized that pre-service teachers should have the ability to unpack competencies. She said that this involves analyzing learning outcomes, or breaking them down into component parts, to identify key life-long transferable learning skills that must be imparted to learners. Moreover, she mentioned that this also includes identifying learning experiences, activities, tasks, and assessments that are aligned with those outcomes.

> *"If you look at the K-to-12 curriculum guide of English for example, then you will see the list of reading literacy competencies… so you can easily map them. I was able to find keywords from our current K-to-12 [one]. Our responsibility, of course, is to unpack the competencies of K-to-12, where the ILSA competencies are also explicit. So, we unpack, while we should also teach the pre-service teachers. How do you unpack a competency? How do you articulate a particular competency into a learning experience, meaning what is appropriate, what assessment is aligned, and what reading text is correct? What topics and themes are feasible and appropriate?" (female, 42)*

Wiggins and McTighe's (2005) work on "understanding by design" emphasizes the importance of understanding competencies, by focusing on designing learning outcomes and assessments. They discuss how to break down complex learning goals into manageable components and align them with teaching practices, which supports the argument that pre-service teachers need to transmit competencies effectively.

Explicit teaching of ILSA competencies

Relative to the crucial role of the teaching of pedagogy and the development of pedagogical content knowledge among pre-service teachers, the FGI participants from the Arts and Languages cluster also thought that ILSA competencies could be directly taught to pre-service teachers. Since ILSA competencies that need to be possessed by learners in basic education are already defined, the faculty members can directly teach them to the pre-service teachers. This centres the focus on the teaching of content and skills similar to what was mentioned by faculty members from the Science and Mathematics' cluster and on how to teach them to the learners.

> *"...What happens when you read a text? How does one comprehend a text? So, the question is, 'How can I ensure that I explicitly taught the competency?' I think they are explicitly taught, because if you look into the K-to-12 basic-education curriculum, ILSA competencies are present there." (female, 42)*

Shulman's (1986) seminal work on PCK discusses the necessity for pre-service teachers to gain both deep content knowledge and pedagogical knowledge, which supports the argument of the faculty members that specific competencies, such as those defined by ILSA, should be directly taught to pre-service teachers to enhance their ability to effectively impart these competencies to their future students.

Although the explicit teaching of ILSA competencies to the pre-service teachers was welcomed, some faculty members cautioned about the need to teach and develop the ILSA competencies in the context of the learners. Darling-Hammond's (2006) work highlights the importance of context in teacher education, emphasizing that competencies and skills should be taught within the context of learners' needs and educational settings. This supports the idea of the faculty members that while explicitly teaching ILSA competencies is valuable, it is crucial to integrate these competencies within the specific contexts in which they will be applied.

Assessing learning through ILSA-like assessment

In general, both academic groups agreed that developing the skill sets offered by ILSA is important in developing pre-service teachers. However, the affinity to align the teacher-education curriculum with ILSA differs in the two academic groups.

The group from the Science and Mathematics cluster argued that ILSA would be a good innovation in the curriculum. Thus, they agreed strongly to aligning the teacher education curriculum with the ILSA competencies. One of the participants opined that:

> *"...[ILSA] is one of the best benchmarks that we could do to really improve our teacher education programs." (female, 52)*

The Arts and Languages group, however, argued that their teacher education curriculum is already addressing the ILSA competencies. Thus, they do not see the need to recalibrate their curriculum to accommodate the ILSA competencies. One of the participants commented that:

"*...we can say that our courses here are aligned with the ILSA competencies.*" *(male, 55)*

Both academic groups acknowledged that the problem is the implementation of the curriculum on the ground. The written curriculum is different from what is being taught and assessed in the current OBE programs as mentioned by one of the participants:

"...the problem is in the implementation of the assessment in the real practice." (male, 55)

Hence, the group from the Science and Mathematics cluster noted that academics should be knowledgeable about the construction of ILSA items to fully achieve the goals of aligning pre-service teacher education with ILSA competencies. This academic recommends that:

> "*...the teacher who makes the assessment, they must also be aware or oriented on how these national and international examinations are being constructed, because we are the ones assessing our students. We should be knowledgeable or well-informed on the construction of large-scale assessment questions.*" *(female, 54)*

One of the participants from the Science and Mathematics cluster gave an example of how they assess pre-service teachers to develop the skill sets of ILSA. This participant said that they give a problem not for students to solve traditionally but for them to think aloud, discuss, and argue how they will solve this problem. This participant said:

> *"I ask my students to explain a concept and then sometimes I ask problems… for them to explain… how they're going to solve that particular item." (male, 55)*

However, this participant also noted that implementing ILSA-like assessment practices on the ground would be very challenging and would require support from the school management. This participant mentioned that at present, the most challenging part of implementing ILSA-like assessment practices inside the classroom is that this would result in a lower percentage of passers in the course which would not be acceptable to the current system. This participant noted that:

> *"...This is the problem: we know that for the majority of schools in the Philippines, it was observed that the teachers are not allowed to give failing grades to their students. So, what do the teachers do then? Instead of giving test items that can measure HOTS [higher order thinking skills] for their summative tests, they are not doing it anymore because if they will do HOTS-based questions, the students will actually fail on it. And if the students fail because of their poor performance, the likely outcome will be that the teachers will be questioned by their school heads." (male, 55)*

One of the participants from the group of Arts and Languages argued that language plays a significant role in the performance of the Philippines in ILSA. This participant also mentioned

that the ILSA results of our neighboring countries in Southeast Asia are good because they opted to use their own language/mother tongue as the language of assessment. This participant said:

> *"...the result on PISA 2018 was related to the language used in the test itself as Singapore, Malaysia, Hongkong, and Vietnam, which are ASEAN [Association of Southeast Asian] Countries, had good performance on PISA 2018 because they used their own language on the test." (male, 54)*

Another participant from the arts and languages cluster argued that developing ILSA-like assessment in the arts would be very challenging because what they are honing in the arts is not purely content knowledge but more on skills development. This participant noted that:

> *"...In the context of art, it is very hard indeed to create examination items, especially those which are standardized. In fact, I have read some articles in art education that imply that art and standard are two concepts that cannot be connected because art is very subjective in nature, and… those factors [ILSA] are content knowledge which is objective in nature." (male, 42)*

In conclusion, ILSA-like assessment practices are predominantly applicable to content knowledge-focused disciplines (i.e., science and mathematics). However, ILSA-like assessment practices would be very challenging to develop in skill-focused disciplines. According to Biggs and Tang (2011), assessment strategies that are well-aligned with learning outcomes in content knowledge disciplines may not always be directly applicable to skill-focused areas. Their work highlights how different types of disciplines require tailored assessment methods, indicating that creating effective ILSA-like assessments for skill-focused disciplines presents significant challenges.

Targeting ILSA competencies through elaboration in the Course Intended Learning Outcomes (CILO) of the course syllabi

At present, the current teacher education curriculum covers ILSA competencies through the entire "package" that a syllabus presents. As stated by one arts and language faculty member:

> *"...in terms of evidence in performance, these are explicit in the outcomes…products that will reflect not just one skill but…multiple outcomes…the essential outcomes in the course…how the syllabi are designed, the instructional delivery, the activities, the assessment...it is toward outcomes." (female, 42)*

However, if ILSA competencies are to be specifically targeted by each instructor in the actual classroom setting, there is a need for further elaboration of CILOs in the syllabus (Gosselin, 2020). One strategy is to state learning outcomes in such a way that it stipulates a particular learning outcome with a specific assessment method (European Union, 2011). Hence, to be able to target ILSA competencies in the classroom, one explicit way of ensuring it is to cite a particular assessment method characteristic of ILSA assessment along with the course intended learning outcome in the syllabus.

To clearly illustrate this in an actual teacher education OBE syllabus, here are three examples of a particular course intended learning outcome with a specific ILSA-like assessment method.

a) Example of a CILO in Elementary Statistics and Probability: Apply the fundamental concepts in the measures of central tendency and variability.
b) Example of a PISA competency in Math: Critique the limits of the model used to solve a problem.

Restated CILO in an elaborated version with a particular assessment method: The learner is able to identify the limitations of statistical tables that reflect measures of central tendency and reliability from a sample of research literature (e.g., this can also address a related PISA competency in situating a mathematical result in a real-world context by providing students with statistical tables from the Philippine Statistics Authority, UNESCO, OECD, etc.).

a) Example of a CILO in Structure of English: Display understanding of the structure of English by explaining its form, meaning, and use.
b) Example of a PISA competency in Reading: Understand - comprehend sentences or short passages.

Restated CILO in an elaborated version with a particular assessment method: The learner is able to explain an English text in terms of its form, meaning, and use from a short English passage based on the learner's topical interest (e.g., short English text from contemporary young adult or adult fiction, or contemporary English adaptations of storylines from Shakespeare, the Bronte sisters, John Steinbeck, Jane Austen, Edgar Allan Poe, etc.).

a) Example of a CILO in Integrated Science for Elementary 1: Apply science process skills, attitudes, and scientific methods in carrying out investigations. Explain how force affects objects' motion.
b) Example of a PISA competency in Science: Procedural knowledge - The use of randomized controlled trials to avoid confounded findings and to identify possible causal mechanisms; The nature of an appropriate design for a given scientific question, e.g., experimental, field-based, or pattern-seeking.

Restated CILO in an elaborated version with a particular assessment method: The learner is able to explain how force affects an object's motion through examples of research-based experiments involving various ball sports (e.g., research-based examples on basketball, volleyball, and billiards are most helpful for Filipino learners since these are the most popular ball sports in the country).

Another option can be a broad assessment method accompanied by specific ILSA-like assessment criteria as well as a learning outcome accompanied by ILSA-like performance criteria (European Union, 2011). Therefore, an OBE syllabus that targets ILSA competencies will be very detailed with specific ILSA-like assessment methods and/or assessment, or performance criteria stated with each CILO.

The Proposed Framework for Integrating ILSA into the OBE Curriculum

Aside from the curricular changes, there should also be a clear action on how to mend differences in beliefs and practices for particular literacies in reading, math, and science in the global context. In conjunction with this, instructional materials such as textbooks should likewise be updated and pegged to sequencing and unpacking of competencies like those identified in the ILSA. Teachers should be kept abreast of what kinds of competencies they must target or methods that are appropriate for the remediation of lagging students.

Almost all the studies in relation to the PISA are silent in dealing with pre-service teachers in the Philippines except for the Balagtas et al., (2020) study which explored the responsiveness of the Bachelor of Secondary Education (BSE) program major in Mathematics to PISA competencies. It is high time that teacher education institutions must have an active voice in addressing this educational crisis. If Orbeta and Paqueo (2022) argue that early childhood to elementary is crucial to form formidable Filipino learners, the case is the same for the education sector which must have a strong pre-service arm that will train capable and competent teachers in the field. Pre-service teachers must be trained to apply current methodologies and trends, sequence competencies, and structure remedial programs within their schools. Consequently, there must be a curricular auditing among TEIs to make their curriculum an essential part of the Philippine Department of Education's (DepEd) goals – a linkage that paves the way for a strong ecosystem within education institutions in the country.

In this connection, there is an urgent need to introduce reforms in pre-service teacher training, and this study offers one such reform - a framework for the possible integration of ILSA into the teacher education curriculum. Hence, a framework for the integration is proposed. The study proposes the integration of the ILSA competencies into the outcomes-based education framework through the *program outcomes* and the *course design* (Figure 1).

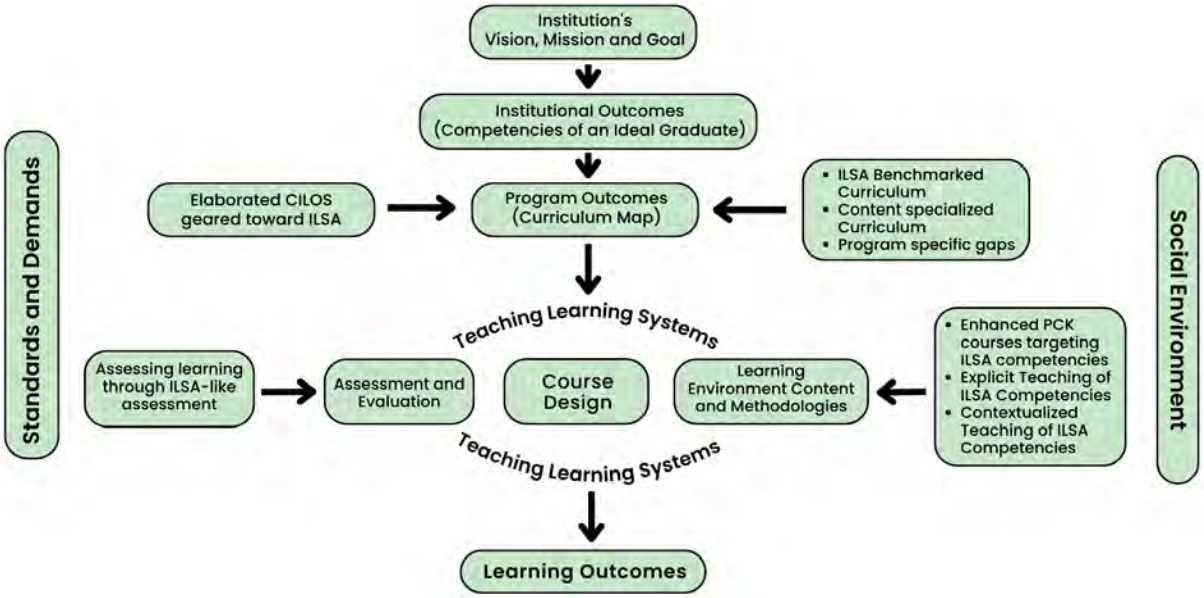

Figure 1: Integrating ILSA competencies into the outcome-based education framework.

Based on Figure 1, there are two ways by which ILSA competencies can be integrated into the OBE curriculum: through the program outcomes and the course design. In terms of conceptual penetration through the program outcomes, this can be undertaken by benchmarking the curriculum with ILSA competencies. On the other hand, integration through the course design can occur through strengthened teaching of content in the curriculum, increased PCK courses for the teaching and development of ILSA competencies, explicit teaching of key ILSA competencies, ILSA-like assessment of learning, and targeting ILSA competencies through course intended learning outcomes elaboration.

Program outcomes, as conceptually penetrated by ILSA benchmarked curriculum, pertain to using ILSA competencies as standards for teacher education curriculum calibration as these reflect the state of the arts in education in the global realm.

Integration through the course design with strengthened teaching of content in the curriculum as a pathway seeks to ensure the depth and breadth of future teachers' content knowledge as well as its effective delivery in the classroom. Courses on PCK can be improved by aiming at ILSA competencies, one way of which is the ability to unpack competencies through class activities and forms of assessment that are in line with the learning outcomes. The explicit teaching of ILSA competencies is also another means of ILSA integration. In this way, the actual ILSA competencies are directly addressed. Assessing learning in terms of ILSA-like assessment means that knowledge about the construction of ILSA items is integral in achieving the goals of aligning pre-service teacher education with ILSA competencies. The results of the study show that ILSA-like assessment practices can be integrated with much ease into disciplines that are focused on content knowledge as compared with disciplines that are skill-based. Elaborating CILOs as geared towards ILSA comes from the premise that the syllabus itself can be "packaged" to achieve ILSA competencies. The elaborated CILOs in each OBE syllabus can contain stipulations on specific learning outcomes that are accompanied by a particular assessment method that is resonant with ILSA assessment or broad assessment methods with ILSA-like assessment criteria. A syllabus can also comprise CILOs that are bundled with performance criteria similar to those of ILSAs.

Conclusions

This study suggests necessary curricular changes to address the Philippines' low performance in ILSAs. Specifically, it proposes a framework for integrating ILSA competencies into the teacher education curriculum, anchored in outcomes-based education. This integration occurs through program outcomes and course design, ensuring that ILSA competencies are addressed both at the macro (institutional) and micro (classroom) levels of teacher education institutions (TEIs). Such integration allows for iterative refinement of TEI curricula based on classroom practices and results.

Despite its limitations and criticisms, ILSA results are crucial for evaluating our national education systems. Recent years have shown disappointing results, highlighting structural flaws, and questioning societal, cultural, and political factors. The Philippines' lagging performance, compared to its regional counterparts in Southeast Asia, affects global competitiveness in the 21st-century job market. Low PISA performance signals the need for reform and innovation, providing empirical data on weaknesses.

TEIs play a vital role in improving ILSA results by training future educators. They shape the mindset of generations of teachers who will lead and implement curriculum reforms. DepEd should collaborate closely with TEIs to ensure pre-service teacher training aligns with globally accepted literacy competencies in reading, science, and mathematics. Pre-service teachers must understand the demands of the education system and effectively teach baseline literacy skills emphasized by ILSA.

Studies and policies should not only focus on the K to 12 curriculum's relationship with PISA competencies, but they should also address the link between basic education skills and pre-service education. Pre-service education should initiate evidence-based reforms, moving away from arbitrary trends and advocacy. TEIs have the data to identify pressing teacher formation needs, marking the start of an evidence-based era in teacher education.

Study limitations and implications for future research

The study has several limitations. First, the data collection was based on a select sample of faculty members from a specific TEI in the Philippines, limiting the generalizability of the findings to other educational contexts in the country. Future research on TEIs' views on ILSA and how ILSA can be integrated into teacher education curricula may expand the participant pool to include more diverse TEIs from various regions in the Philippines. This would provide a broader representation of educational contexts and challenges in integrating ILSA competencies. Second, the study focused primarily on participants from the science, mathematics, arts, and language academic groups, which may not fully capture the perspectives of educators from other subject areas such as reading, covered in regional ILSA, Southeast Asia Primary Learning Metrics (SEA-PLM) and Progress in International Reading Literacy Study (PIRLS).

Future research would benefit from including additional stakeholders, such as in-service teachers, school leaders, and policymakers, to gain a more comprehensive understanding of the factors that influence the development and adoption of ILSA-aligned curricula. Moreover, future efforts to review or validate the framework proposed in this study must also include a more diverse set of participating TEIs and stakeholders. A third limitation is the reliance on focus group interviews, which may have restricted the broadness of individual responses. A variety of data collection methods, such as surveys or individual interviews could have provided more diverse viewpoints.

Furthermore, conducting longitudinal studies could offer insights into the long-term impact of integrating ILSA competencies into pre-service teacher education programs, particularly in terms of teachers' professional development and students' learning outcomes. Finally, future research could explore how localized pedagogical practices and curriculum adaptations align with ILSA competencies, particularly in addressing the cultural and linguistic challenges noted by faculty members in arts and languages.

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