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Intercultural Bilingual Education (EIB) in Peru

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Abstract

The article presents characteristics of the curriculum for the Regular Basic Education in Peru which addresses initial, primary, and secondary education. The curriculum takes into account that the country is home to diverse indigenous communities with different languages who are a prominent part of the society. As a consequence, intercultural bilingual education was implemented in many areas, and it is practiced mostly in a rural context. Short interviews with teachers show specific challenges of the bilingual class and underpin the importance of integrating the daily environment of the students in mathematics and science classes.

Keywords

bilingual education, intercultural education, indigenous knowledge, STEAM

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1 Education in Peru

Peru is a country located in the western South America. It has a population of about 32 million inhabitants of multi-ethnic origin. In a 2017 census about 60% identified themselves as *mestizos* with a mixed European/indigenous background and about 22% as Quechua. Slightly less than 5% belonged to other indigenous groups. More than 80% of the population use Spanish as their mother tongue, 14% use Quechua, and 4% use other indigenous languages such as Aymara or one the many different languages spoken e.g., in the Amazon region. There are political efforts to reinforce the importance of indigenous languages in public schools and to better recognize the culture of indigenous groups in Peru. The general curriculum adds to this effort.

Regular Basic Education (RBE) in Peru is organized in the initial, primary, and secondary level. These levels are consecutive, gradual, and articulated around aspired competencies and capacities. There are 31 different competencies which have been formulated including descriptors called learning standards that are related to a student's development throughout the RBE.

The curriculum indicated by the Ministry of Education (MINEDU) has been developed in such a way that at the end of the basic education the student will have achieved a set of learning goals included in the profile of graduation. Most of them are more general educational goals, but some also have a direct link to specific subjects. The competences to be acquired will ensure that a student

- recognizes him/herself as a valuable person and identifies with his/her culture in different contexts.
- fosters life in democracy based on the recognition of his/her rights and duties and the understanding of the historical and social processes of our country and the world.
- practices an active and healthy life for his/her well-being, takes care of his/her body and interacts respectfully in the practice of different physical, daily or sports activities.
- appreciates artistic-cultural manifestations to understand the contribution of art to culture and society, and creates artistic projects using the various languages of art to communicate his/her ideas to others.
- communicates in his/her native language, in Spanish as a second language, and in English as a foreign language in an confident and responsible manner to interact with others in diverse contexts and for different purposes[1].
- investigates and understands the natural and artificial world using scientific knowledge in dialogue with local knowledge to improve the quality of life and care for nature.
- interprets reality and makes decisions based on mathematical knowledge that contribute to his/her context.
- manages projects of economic or social entrepreneurship in an ethical manner, which allows him/her to articulate with the world of work and with the social, economic and environmental development of the environment.
- responsibly uses information and communication technologies (ICT) to interact with information, manage communication and learning.

[1] This part corresponds to students whose mother tongue is one of the native languages of Peru.

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- develops autonomous learning processes on a permanent basis for the continuous improvement of his/her learning and the results.
- understands and appreciates the spiritual and religious dimension in the life of individuals and societies.

Each of these competencies is complemented by a description of more concrete abilities which should be achieved during basic education. For example, the competency that a student interprets reality and makes decisions based on mathematical knowledge includes the abilities that the student seeks, systematizes and analyzes information to understand the world around him/her, solves problems and makes decisions related to the environment. Moreover, the student is supposed to flexibly use mathematical strategies and knowledge in diverse situations, from which he/she elaborates arguments and communicates his/her ideas through mathematical language, as well as diverse representations and resources. The activities of the students encompass interdisciplinary projects however, each academic area focuses on specific competencies and abilities.

A total of 7,834,543 students were enrolled in programs of basic regular education in 2023, according to sources from the Ministry of Education (https://escale.minedu.gob.pe/). Of them 1,629,153 took part at the initial stage, 3,636,123 were in primary, and 2,569,267 in secondary schools. From the point of view of economic investment in education, the national budget allocated has been low when compared with indicators used by UNESCO or OECD. These indicators that evaluate the financial resources of countries for the education sector show that Peru is well below the investment budget compared to other countries with only 3.7% of GDP spent on education (Guadalupe et al., 2017). In recent years this percentage has increased but still does not allow optimizing the necessary resources.

Results in national and international assessments have not been satisfactory. In the recently published results of the PISA test of 2022 (https://www.oecd.org/pisa) the averages obtained in Peru were 408 (reading), 391 (mathematics) and 408 (science). The results in mathematics are slightly below those of 2018, the results in reading and science are slightly better than in 2018. However, these are not significantly better results and Peru cannot leave its unsatisfying position at the international level as well as in the Latin American context. These results were also low in the Student Sample Evaluation of 2022 (http://umc.minedu.gob.pe/resultadosem2022/). However, better results had not been expected after two years of virtual classes. This must be regarded as an effect of the educational policy established during the pandemic.

At the national level, MINEDU prepares the *Evaluación Censal* where students from second grade of secondary schools and second and fourth grade of primary schools participate. This evaluation also includes the areas of reading, mathematics, and science/technology. The results in primary schools in the three grades indicate that more than 50% of the students are at the levels below or at a minimum knowledge. The results at the secondary level became better according to the last evaluation conducted in 2019 (https://escale.minedu.gob.pe/).

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2 Intercultural Bilingual Education (EIB)

Long before the period of colonization of the Peruvian territory, diverse cultures developed. They used varied languages that for centuries adapted to the historical processes. Some of these languages have survived until today. There are currently 48 native languages spoken in Peru, four of which are spoken in the Andes and 44 in the jungle region (https://bdpi.cultura.gob.pe/lenguas). Of these the languages with the largest number of speakers are Quechua and Aymara in the Andes and Awajún, Shipibo-Conibo and Asháninka in the Amazon region. It is important to note that due to their ancestry, historical expansion processes and geographical characteristics, each language has varieties. For example, Quechua has varieties called Quechua I in the central part of the country and Quechua II in the northern and southern parts. Similarly, Shipibo-Konibo includes the Shipibo, Konibo, Shetebo, and Piskibo varieties.

At the beginning of the 20th century there was a notable difference between the first language, which was the native language, and the second language, which was Spanish. Students used their native language in their families however they were encouraged to use Spanish at school. By the end of the century the situation was different, as not only bilingualism decreased, but also the use of the ancestral language by children. There are many reasons for this. For example, interethnic marriages where the children learn Spanish from their first years play an important role as well as discrimination that interrupted the learning and later use of the native language. Moreover, migration to urban areas that occurred in the 1980's as a result of the subversive violence caused many people who used to express themselves in their native language to change to Spanish in their everyday communication in a new environment.

Meanwhile, conditions in favor of the use of native languages have changed. Since 2002, Law No. 27818, known as the Intercultural Bilingual Education Law, establishes that the Ministry of Education (MINEDU) designs the National Intercultural Bilingual Education Plan, which includes all educational levels. The norm regulates various processes, many of which include consultations with representatives of the different peoples who communicate using native languages. It is important to understand that here an intercultural perspective is understood as coexistence and respectful dialogue between people from different cultures with consideration and appreciation for everybody (Mahuanca 2020).

In 2016, Ministerial Resolution N° 629-2016-MINEDU was enacted in the Official Gazette El Peruano, which approved the National Intercultural Bilingual Education Plan. This was the first step towards presenting the objectives, strategic actions, and activities of the plan and preparing implementing EIB throughout Peru.

According to this document, three topics of the EIB Service Model received special attention.

- EIB of cultural and linguistic strengthening: This applies to students from native and/or indigenous families who have the native language as their mother tongue and need to learn Spanish. This form of attention includes the majority of teachers and students of EIB.

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- EIB of cultural and linguistic revitalization: This applies to students from native and/or indigenous families who have Spanish as their mother tongue and need to revitalize their heritage language.
- EIB in urban settings: This applies to students from native and/or indigenous families who are located in urban settings but who have some link to their original culture and who are at different levels of bilingualism. This form of attention includes a minority of IBE teachers and students.

At the local level, the Regional Education Directorates (DRE) and the Local Education Management Units (UGEL) contribute to the implementation of MINEDU education policies. The evaluations applied by the Quality Measurement Unit (UMC) have been conducted since 2007 on Aymara Quechua, Awajún and Shipibo-Conibo. They have been continued in 2014 with Chanka Quechua and in 2016 Asháninka. The evaluations follow those of the Spanish language (https://umc.minedu.gob.pe/informes-de-resultados-ece-eib-2016/). Based on the results obtained, several recommendations emerged that were taken into account, for example, when developing a material called "My favorite readings" in 2011, an innovation that was awarded the First Prize in the Contest of Good Intercultural Practices in Public Management 2016 in the National category.

In 2022, in the framework of the Resolution N° 00158-2022-MINEDU, the "National Registry of Educational Institutions that provide the Intercultural Bilingual Education Service" was updated. The results show that Peru has 26,902 EIB institutions with more than 1,200,000 students, the number of teachers exceeds 25,000 but still does not meet the total number of positions required to meet the needs of this special type of educational attention.

3 Teachers of Intercultural Bilingual Education in Peru and Teaching Strategies

Teachers working at the RBE level need to develop various skills in their professional training in order to foster students' competencies, abilities, and skills. Teachers working in an EIB context need an even broader knowledge base, as they must handle a native language in written and oral form, and in addition need to be committed to the preservation of the ancestral culture (Uruccahua 2019). Teachers who exercise their profession in the framework of EIB should be aware of the culture and language of students and their context, in order to design approaches and strategies that allow them to foster the competencies proposed from MINEDU in their classrooms. This is not an easy task and there are deficits which have been reported in different studies and may be the cause of difficulties in implementing curricular plans with good results in the predominantly rural areas (Quispe, 2019).

There are important strategies used to meet these requirements. Among them are field trips and interaction with the community, which also allows reinforcing the native language, the production of oral and written literary material, recovery of ancestral songs and composition of new ones, description of their culture and the use of texts sent by MINEDU (Quispe, 2019). Moreover, MINEDU produces written materials in printed and digital versions with the participation of EIB teachers, education specialists and in

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some cases prominent community referents (https://repositorio.minedu.gob.pe /handle/20.500.12799/7939).

In relation to the normative documents of Education in Peru, the General Directorate of Alternative Basic Education, Intercultural Bilingual, and Educational Services in the Rural Area (DIGEIBIRA) designed educational materials for mathematics written in 18 major native languages, serving in 2017 about 92 % of primary students and 56 % of students in pre-school. The working materials addressed the environment of the students. However, a subsequent evaluation showed that they were not frequently used because teachers had difficulties reading in a native language or lacked specific training in the application of educational resources. Obviously, more research should be conducted that addresses the specifics of mathematical concepts and applications in such cultural contexts in order to include good practices into formal teaching (Uruccahua, 2019).

With respect to science and technology, the educational guidelines promote a strengthening of environmental awareness. Obviously, in order to achieve this goal in the classroom, teachers must properly understand the notions as well as their possible relation with the native cultures, their use and also the limitations. Due to connectivity problems and the cost of mobile devices, the use of ICT is not common in rural communities where most of the EIB students live.

Like with ICT there are other challenges for teachers in particular in rural classrooms. It is not only indispensable to identify these problems but also to better understand the teaching strategies which are actually used in schools. Therefore, EIB teachers expressed their points of view about their educational experience in qualitative interviews. All teachers work in a rural environment in Peru.

3.1 Interview 1: Female teacher (primary school, 21 students in class).

Characteristics of language use in her class: Some students understand Quechua but do not speak it. Communication in class is mainly in Spanish. Currently the municipality where the school is situated has a program for the revalorization and enhancement of native languages such as Quechua.

> *Which are the teaching and learning strategies you use in the classroom when teaching science?*
>
> One of the strategies I use to teach science is to develop experiments, which encourage inquiry in the students. Also, the environment of the children is explored and integrated in class, since in this way children feel more familiar with their surroundings and explain natural phenomena in their own words. In addition, the use of technological tools allows us to generate an active interaction with the content to be learned.
>
> *Which are the teaching and learning strategies you use in the classroom when teaching mathematics?*
>
> One of my strategies is the use of concrete material in order to generate more meaningful learning, such as making scales out of recycled material or beads to create

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sequences, etc. Also using ICT helps us to interact with the content to be learned. And the different types of games such as board games, role-playing, etc., enable children to learn through playing.

Whether in science or mathematics, which strategies are best received by your students?

Those that involve the use of concrete material or are related to games. In these situations, students see learning as enjoyable and fun, which makes for them learning much more meaningful and based on their own actions.

Is ancestral knowledge included in your classroom work or are corresponding materials used?

Yes, sometimes students are asked to bring seeds from home such as beans, corn, or others, for counting or building sequences. Also, we usually integrate stories or poems typical of their communities. But I believe that although parents still maintain their customs and traditions, they place little importance on transmitting them completely to their children.

Is there family participation in accompanying the students?

Yes, there is accompaniment by 70% of the parents, who feel committed to their children's education, which allows for a more continuous and observable progress in the students. However, the others have difficulties supporting their children academically. They are illiterate people focused on their daily work. In consequence, they disregard the progress of their children, which may lead to a delay in the achievement of school education objectives.

3.2 Interview 2: Female teacher (pre-school, 14 students in class).

Characteristics of language use in her class: The classroom is bilingual, classes are carried out in Spanish and Quechua.

Which are the teaching and learning strategies you use in the classroom when teaching science?

For the teaching of science, my strategy is making use of experiments, in accordance with pedagogical and didactical knowledge. Children love to explore different materials. In this subject we encourage inquiry so that students can broaden their knowledge and learn for life. For example, we conduct experiments on the medicinal plants that exist in the community. Thus, the children may observe, manipulate and feel the flavor, that is to say, the transformation of a healing plant. Undoubtedly, working with ICT is also an important way to expand meaningful learning.

Which are the teaching and learning strategies you use in the classroom when teaching mathematics?

One of the strategies I use in the classroom is working with concrete material that the children can manipulate and observe. This material is generally taken from their environment. For example, we count the branches of a tree or use seeds with which

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students can perform serialization, selection, grouping, etc. Moreover, counting may be used in order to determine the number of animals living in the community. Generally, the teaching content offered to the students is selected according to their context and daily life. Thus, they build up knowledge that can serve as a basis for life-long learning.

Whether in science or mathematics, which strategies are best received by your students?

One of the strategies that works best with children is the exploration of concrete materials. Also, ICT is well received when they watch videos related to a specific topic and interact with it.

Is ancestral knowledge included in your classroom work or are corresponding materials used?

Most of the teaching of children incorporates ancestral knowledge and skills, as well as materials from the context, since the community still values its customs, traditions, knowledge, and skills. For example, the products of the area, the branches of trees, the flat stones on which animals or products of the community are painted can be used as a teaching aid in the classroom. Also, every Friday in the educational institution we have cultural Fridays where boys and girls – exclusively at that day – come to study with their community costumes, and we share a meal exclusively prepared in the community.

Is there family participation in accompanying the students?

Yes, there is 90% of accompaniment and participation on the part of the parents. This allows for a more continuous progress of the students. The other 10% of parents are only dedicated to their work and neglect the progress of their children, which results in a delay in the achievement of the expected learning of their sons and daughters.

3.3 Interview 3: Female teacher (primary school, 20 students in class).

Characteristics of language use in her class: The classroom is bilingual, classes are carried out in Spanish and Quechua.

Which are the teaching and learning strategies you use in the classroom when teaching science?

One of the most outstanding and impactful strategies is the dialogue of knowledge, which consists of getting to know local and scientific knowledge about a topic. For example, on food preservation, we first gather their previous knowledge around the questions: how do you preserve food in your community, what do you do to preserve food at home? Then, they are asked whether they can be sure that their answers are correct and who we could ask to learn more about food preservation. These questions guide the students in developing an interview questionnaire. Subsequently, a visit is made to the home of a parent, and if possible, parents are also asked to come to the classroom and take part in the interview. This strategy allows students to deepen and

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share their knowledge, and to value the knowledge that is maintained about food preservation in their community.

Afterwards, students are asked challenging questions: How is food preservation done in cities? What materials and machines are used? How are they used? Questions like this encourage students to plan further actions concerning the topic. Researching with the help of books or looking for articles and videos on the Internet may allow them to learn about other ways of preserving food. At the end of the research, the previous information is presented to them so that they can find similarities and differences between their community habits and the new information, thus making them aware that both forms of knowledge are valuable for preserving food.

Which are the teaching and learning strategies you use in the classroom when teaching mathematics?

The most impactful strategy is direct experience with a problem. It starts with a presentation of the problem, from which students are asked questions to enhance their understanding of the problem. The representation of the problem with e.g., eucalyptus seeds, bottle caps, disposable cups and other semi-structured or structured materials allows students to put together, take away, multiply and divide quantities in order to find the answer to the proposed problems.

Whether in science or mathematics, which strategies are best received by your students?

The best received strategies are those that challenge them, strategies that allow them to experience, experiment, manipulate, listen and observe, since they involve the development of different senses of the human being, the same ones that are much more significant and allow the storage of learning in the long-term memory of the students.

Is ancestral knowledge included in your classroom work or are corresponding materials used?

Yes, definitely. In an institution with intercultural bilingual education, it is essential to start from the knowledge possessed by the community whether in the teaching of science or mathematics or any other area. This makes it possible to broaden the students' knowledge, make them recognize the diversity of knowledge, and prepare them to develop as citizens with a critical and reflective position with respect to cultural and linguistic diversity.

Is there family participation in accompanying the students?

Yes, there is, since they also actively participate in their children's education, which has an impact on the achievement of learning and competencies in basic education. It should be noted that the engagement of parents in education makes it possible for students to become actively and thoughtfully involved, since they are aware that education will lead them to achieve their dreams and goals.

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4 Conclusion

Peru is a country with an unsatisfactory track record in international programs comparing students' competencies. However, in the last few years the curriculum and thus education at the basic level has changed. It was an important step to establish bilingual education in regions where children grow up in another mother tongue but Spanish. The broad variety of languages as well as the specific requirements in the classrooms makes this a difficult endeavor. It is not just an additional language, but part of a culture which is different from mainstream Western cultures. Recognizing language and culture as important parts of the students' lives and supporting them in maintaining this environment is a demanding task.

In consequence, pre-service and in-service teacher education needs to be supported in preparing young colleagues for this challenge. The interviews illustrate that a profound knowledge of a domain as well as pedagogical and didactical knowledge is the indispensable requisite in order to offer classes according to general education standards. However, they also showed that the activities related to science and mathematics were characterized by using materials or situations of the indigenous community and its environment. The students appreciate the inclusion of ancestral knowledge or practices in the bilingual classroom and it forms an important source for their own experiments.

It seems necessary to continue with the production of educational material in different languages. Teachers need concrete ideas how to use the specifics of language and culture and should be able to take advantage of regional characteristics and the environment. This important task should be supported in the most efficient way. Last but not least, the commitment of parents is an important pillar of students' achievement. Parents are not teachers and have other duties to fulfill. However, particularly in a culture-sensible classroom their contribution is valuable and a crucial aspect for their children's academic achievement.

The definition of curricula is important and a first step in direction to a good and sustainable education of children and adolescents. Their implementation needs further steps. It is an endeavor in which not only the teachers are involved but must be seen as a joint task for the society. Politicians as well as teachers, the rural or urban society, parents, and also young people themselves are responsible for this and should accept this responsibility. This is particularly true for the bilingual classroom.

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