

Examining Current and Future Ecuadorian Educators' Experiences Using Action Research in the English as a Second Language Classroom

Análisis del rol de la investigación-acción en la práctica de futuros docentes en Ecuador en aulas de inglés como segundo idioma

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This paper reports on Ecuadorian pre-service and in-service teachers' ability to conduct action research in the classroom as well as their skills to efficiently adjust instruction to address students' cultural and linguistic diversity. A qualitative case study approach was implemented to collect information from teacher candidates in 2015, in-service teachers from a public school in 2017, and in-service teachers from a private school in 2019. Data were collected through focus groups and interviews conducted in Spanish. Findings suggest that training teachers to conduct action research will improve their ability to analyze data and improve students' learning outcomes.

Keywords: action research, Ecuador, English as a second language, teachers' knowledge

Este artículo se enfoca en la capacidad de los maestros en su labor diaria y de futuros docentes ecuatorianos para realizar investigación-acción en el aula, así como ajustar la instrucción tomando en cuenta la diversidad cultural y lingüística de sus estudiantes. Este proyecto cualitativo investigó el conocimiento de docentes y estudiantes de licenciatura con respecto a la investigación-acción como un medio para mejorar la instrucción en el Ecuador. Para ello, se implementó un enfoque cualitativo de estudio de caso con el fin de recopilar información de los estudiantes de licenciatura en 2015, docentes de una escuela pública en 2017 y docentes de una escuela privada en 2019. Los datos fueron recolectados a través de grupos focales y entrevistas en español. Los resultados sugieren que los maestros que se capacitan para realizar investigación-acción mejoran su preparación pedagógica y su capacidad de analizar datos. Esto contribuye al aprendizaje de los estudiantes.

Palabras clave: conocimiento de los profesores, Ecuador, inglés como segundo idioma, investigación de acción

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This project was supported by the CREATE Center at Northern Illinois University.

How to cite this article (APA, 7th ed.): Burgin, X. D., & Daniel, M. C. (2021). Examining current and future Ecuadorian educators' experiences using action research in the English as a second language classroom. *Profile: Issues in Teachers' Professional Development*, 23(1), 41–55. <https://doi.org/10.15446/profile.v23n1.84020>

This article was received on December 9, 2019 and accepted on October 5, 2020.

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Introduction

In recent years the landscape of educational mandates and both teacher preparation and professional development (PD) in Ecuador have changed, with empowerment of the country's educators becoming a stronger focus. The country's educators have been asked to implement pedagogical practices with an increased focus on learner-centered instruction and fewer teacher-led lectures. As a result, our research team developed a project to explore current action research (AR) practices and examine in-service teachers' and teacher candidates' knowledge of AR as a means to modify and improve instruction in Ecuador's classrooms.

The theoretical framework of this study was based on Carr and Kemmis's (1986) definition of AR as "a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out" (p. 162). The term AR was coined by Kurt Lewin in the 1930s (Mills, 2007), and since then, scholars have developed several models (Kemmis & McTaggart, 1988; Wells, 1994) to explain the relationship among all the steps that compose AR methodology. Creswell and Guetterman (2019) indicated that the purpose of AR is to solve educational problems, and Hendricks (2006) described the AR process as a "systematic inquiry based on ongoing reflection" (p. 9). AR models may look different due to the focus placed on improvement, such as reflective practice, that looks at one's reflective practices as a continuous improvement (Mills, 2007; York-Barr et al., 2016). On the other hand, participatory research looks at a study's participants to provide insights about the dynamics of the organization or a community to participate in designing a project, data collection, interpretation of findings, and development of recommendations for future action (McIntyre, 2008; Wyatt, 2011).

The study's researchers are teacher educators, one from Ecuador and the other from Cuba, whose work

focuses on the preparation of teachers to work with culturally and linguistically diverse students in the United States and Latin America. Data gathered in this three-phase investigation are relevant for educators in diverse educational environments because they allow teachers to gain insights for improving their practice. The research team collected information from practicing teachers (open-ended questions and interviews in 2017 and 2019) and teacher candidates (focus groups in 2015) to assess teachers' understanding of AR and its implementation. In addition, we delivered workshops focused on preparing the educators to use different instructional and affective strategies to teach students from multilingual and multicultural backgrounds. In this article, the focus is a workshop aimed at enhancing teacher candidates' and practicing teachers' knowledge of and ability to implement AR practices. Findings from the workshop's activities were examined to identify effective steps that would help educators overcome instructional challenges and reflect on their pedagogical practices as part of their educational role.

Ecuadorian Educational Reform: A Brief History

At the end of the twentieth century, Ecuador did not have a long-term educational plan for achieving its educators' and government leaders' desired educational objectives. In addition, there was not a single unified policy that regulated implementation of a curriculum across all K-12 educational institutions (Kuhlman & Serrano, 2017). Ecuador's Department of Education provided the curricular requirements, while educational institutions were responsible for its implementation. Institutions were given the flexibility to deliver instruction according to their own needs and resources. Working groups were formed to analyze suitable implementation for the specific educational institution. English language standards were developed during 2012 and 2013 to ensure quality instruction for

students to meet desired proficiency in English (Díaz-Maggioli, 2017).

Toward the latter half of 2002, Ecuador designed a national plan that was hotly debated in the nation's educational institutions (Isch-Lopez, 2011). The plan aimed to increase educational expectations; however, it was never implemented. By 2016 the "Plan Decenal 2006–2015" (10-year plan) included eight guidelines the government proposed for approval by the Ecuadorian people (Ministerio de Educación y Cultura del Ecuador, 2006). These guidelines incorporated a renewed focus for schooling focused on equity and a vision of increased cultural tolerance and inclusiveness. The goal was to strengthen the readiness of all Ecuadorian citizens to advocate for the rights of its diverse citizenry. To achieve the plan objectives, the Ecuadorian government created a national curriculum that made free education the duty of the State. The plan stipulated that teacher positions would be selected on a merit system: Teachers would be trained and evaluated based on the curriculum and the teachers' professional competency. Mandates were subject to the specific legal rules indicated in the General Law of Education, Educational Reforms, and Ministerial Agreements of the Ministry of Education (Organic Law of Intercultural Education, 2012).

Population Diversity in Ecuador

Rodriguez (2013) explained that awareness of the "racial, cultural, ethnic, and socioeconomic differences that exist among student populations and teachers in many educational settings is imperative for creating teaching-and-learning environments characterized by mutual understanding" (p. 87). The concept of ethnicity applies to groups working to maintain their cultural and political identity and ensure their protection, advancement, and access to resources in a national system (Helmberger, 2006; LeCompte & Schensul, 2010). The magnitude of the diversity in Ecuador's classrooms poses instructional challenges for all stakeholders. The Instituto Nacional de Estadística y Censos (INEC,

2015) reported that 93% of Ecuador's population speaks Spanish and 4.1% speaks Quechua. Census information documented the country's population was composed of 71.9% mestizos (mixed Amerindian and white), 7.4% Montubio, 7% Amerindian, 6.1% white, 4.3% Afro-Ecuadorian, 1.9% mulatto, 1% black, and 0.4% other (INEC, 2015). According to the Ethnologue website (<https://www.ethnologue.com/country/EC/languages>), Ecuadorians speak 21 indigenous languages (e.g., Cofán and Quechua).

Action Research in Other Countries

Action research has been used to foster the development of higher levels of knowledge and skills in language teachers as part of PD (Edwards, 2020). AR has been utilized in several countries in Africa to help teachers navigate/determine/re-envision their teaching roles. In Lesotho (Mokuku, 2001), Malawi (Stuart & Kunje, 1998), and Ethiopia (Jebessa-Aga, 2017) researchers worked with teachers utilizing the AR cycle. The teachers found the process useful; however, they did not realize the time and effort needed to implement AR, potential to improve teaching practices, and limited resources to sustain the process long-term. Edwards and Burns (2016) conducted a study with 16 in-service Australian teachers, reporting that the AR program had a positive impact on teachers' self-confidence about their teaching, connections established with students, teachers' engagement with research, and teacher's recognition for their efforts. Time and support from the administration was cited "as crucial in helping them to pursue their research interests and facilitate positive effects of the AR program" (p. 13). Burns et al. (2016) reported that after an AR workshop focused on the AR process, six bilingual (Spanish–English) in-service teachers in Chile indicated the AR process was valuable; however, teachers specified time to be dedicated to AR as an issue due to the demands of their profession. In another study (Rahmani-Doqaruni, 2014),

16 Iranian teachers participated in AR within their classroom context demonstrating the potential to support teachers' development of research skills and knowledge. Mehrani (2017) identified challenges and opportunities for language teachers conducting action research. The opportunities included the participants' understanding of language education as a framework to reflect on the teaching profession, and the opportunities to advocate for students' needs. The challenges reflected teachers' time limitations to devote to the effort, their limited research knowledge, unpredictable administrative support available, and the overall lack of collaboration across all educational sectors. Another study conducted in Spain (Soto Gómez et al., 2019) highlighted the results of 10 years of using lesson study combined with AR to address teachers' practical knowledge about teacher training. The findings indicated that lesson study helped the teachers reconstruct their thinking and strengthened the teaching community.

Data from these aforementioned studies suggest the strong possibility that AR serves to empower teachers to improve their pedagogy. According to Wood et al. (2019), AR provided pathways to understand critical educational questions regarding the creation and use of knowledge within schools or classrooms, and educators to engage in transformative practices when systems were in place to support the sustainability of their efforts. Furthermore, Soto Gómez et al. (2019) stressed the importance of practical experience and reflection for teachers to gain knowledge and change their attitudes and pedagogical practices. The AR process can support changes through curriculum reform, innovations that support institutional change, and/or educational system changes. AR processes can help educators address problems (Stuart & Kunje, 1998); however, AR is clearly a transformational process that requires teacher engagement, critical reflection, and innovative ways to build knowledge (Wood et al., 2019).

Exploring the Rationale and Possibilities for Action Research in the Ecuadorian Context

To date, discussing whether Ecuadorian teachers have adequate knowledge and training with AR methods to implement this type of research has not been a priority. Patera et al. (2016) conducted a participatory action research (PAR) study at the Centro Audiovisual Don Bosco in Ecuador to develop teachers' competencies and capabilities to produce quality multimedia products for education. The study's results identified the need for PD to examine the PAR process in Ecuador and engage teachers in a continuous evaluation of the learning environment.

Nugent et al. (2012) indicate that AR links theory and practice through its goal "to make the theory explicit in order to justify the actions" (p. 7). AR involves stakeholders in reflection leading to dialectical critique to show whether existing systems work efficiently to support each other. All voices are considered significant in collaborative AR due to triangulation of data collected and analyzed in allowing for a plurality of interpretations. This freedom of expression is needed in all school systems undergoing reforms.

The AR process varies as individual teachers recursively implement its steps in their classrooms until the problem is solved. Teachers typically "(a) identify an area of focus, (b) collect data, (c) analyze and interpret data, and (d) develop an action plan" (Mills, 2007, p. 263). Teachers engage in practitioner research work to improve their classroom practices through data gathering and analysis. Teacher inquiries include a cycle to identify a problem, find solutions, implement solutions, and assess the effects on the students (Creswell & Poth, 2017; Kemmis & McTaggart, 1988). Through inquiry, teachers become researchers who consciously test their own theories and explanations about teaching and learning (Creswell & Guetterman, 2019). AR provides a path to effect the type of change for which Ecuadorian

authorities are advocating. Teachers might focus on a specific topic to investigate, commit to gathering data to learn new pedagogies to improve the focus of study, and systematically reflect on the processes and results (Mills, 2007). The steps help educators understand their approaches to the problem and do more than measure results. Edge (2005) argues that English language teachers should reflect on their teaching practices and philosophies to grow professionally. Stakeholders collaborate to create a community that works through the AR process to mobilize resources and/or to understand ideas and practices that empower them to transform the problems under analysis into solutions (Mehrani, 2017; Santoro Lamelas, 2020).

This research asked if programs of teacher preparation in Ecuador might more effectively incorporate educational mandates through AR implementation (Constitución de la República del Ecuador, 2008). The researchers of this study posited that teachers need the freedom to examine educational practice within their own socio-cultural context, and that AR consists of human interactions to originate meaning (Mills, 2007). In this work we proposed that conducting AR would lead Ecuadorian practitioners to create teaching and learning environments characterized by cross-cultural understandings that support constructivist pedagogical practices.

English Language Programs After Ecuadorian Educational Reforms

Ecuador's constitution asserts the rights of its citizens "to engage in interpersonal intercultural communications in all dimensions" (Constitución de la República del Ecuador, 2008). Language policies in schooling practices showcase the power of English in Ecuador's educational system. Although the constitution acknowledges Spanish as the country's official language, and while Quechua is spoken by its indigenous populations (Constitución Política de la República del Ecuador, 1998), they are not part of required school curricula. English is the

language of commerce; textbooks used in many tertiary programs are written in English, and Ecuador's official currency is the US dollar. Therefore, it is key to ensure educator awareness that in bilingual and multilingual practices there may be a hidden underlying assumption that "coming to voice takes place in English only... while students' vernaculars are denigrated and ignored, rendering bilingual education colonial-like in nature" (Macedo & Bartolomé, 2014, p. 24).

To prepare English teachers to deliver English as a second language (ESL) instruction, the Ecuadorian government signed agreements with the Alliance of Progress from the US and the British Council. By 2012, agreements with select tertiary institutions in the US were in place (e.g., New Mexico State University and Kansas State University; Reforms for Education in Ecuador, 2014). The agreements were to provide assistantships for teachers and teacher candidates to study English in the US and be better able to improve the education system in Ecuador. The program "Teach English 2014" was designed to improve teacher preparation, teachers' level of English language acquisition, and teachers' knowledge of English language teaching (ELT) theories and practices. Grants were provided to help Ecuadorian teachers study second language pedagogies in English-speaking countries in order to have opportunities to interact with English-speaking cultures to meet with the mandate of teaching English from the 8th through the 12th grade levels (Agreement 0041-14, 2014).

Ecuadorian Teachers' Ideologies

Effective methods of ELT require educators to hold implementable visions of empowerment and positive ideologies of advocacy that support all stakeholders. In ELT, besides a focus on the target language of instruction, teachers need to examine the design of their lessons and how methods help students develop mastery of the content presented. This study investigated possibilities for implementing AR as a means to support English teachers' ideologies of equity in their educational practice

(Díaz-Bazo, 2017; Macedo & Bartolomé, 2014). While Ecuadorian teachers accepted the charge of making curricular changes to the delivery of English language instruction across all grade levels in their country and the mandate to do so quickly, they were taxed with simultaneously receiving the PD that would enable them to do so (Isch-Lopez, 2011). This research brought teachers' knowledge and beliefs about their role as second language educators to the fore as we presented methods of AR to support culturally responsive pedagogy (Díaz-Bazo, 2017). The type of ongoing reflection that is enhanced in AR (York-Barr et al., 2016) appeared to be an overlooked cog in the wheel of designing curricular changes that could result in higher levels of academic achievement for students. ELT as a semiotic tool is supported by teachers' ability to think thoughtfully about the application of theory in the classroom context (Gonzalez et al., 2005). We posited AR would serve to enhance the links between theory and practice in ELT (Creswell & Guetterman, 2019; Edwards, 2020).

Envisioning Action Research in Ecuador's Schoolhouse

Numerous top-down mandated changes to Ecuador's educational system have been implemented in recent years (Van Damme et al., 2013) with little room allotted for teachers to contribute input as the curricular changes were incorporated. At the same time, increased PD required of teachers was based solely on learners' academic achievement in examinations. Prior to beginning this research, we hypothesized Ecuadorian teachers might not be engaging in reflective processes that would allow them to evaluate whether the enacted curriculum addressed students' educational needs. In this environment, it seemed unlikely that top-down mandates imposed by the government supported teachers' efforts to perform AR.

For teachers to gain expertise throughout their careers, they need time to conduct AR so they can reflect, evaluate, reflect again after analyzing gathered

data, and take action. Thus, current and future teachers could learn how to analyze social, economic, and cultural relations in their society. Teachers' identities as educators (Fitts et al., 2008) require that they have opportunities to empower themselves and their students. This inquiry into the presence or absence of AR in Ecuador's schools sought to establish whether teachers have opportunities to engage in reflective practice, if they are taught how to conduct AR, if they know how to document and examine formative and summative data, and if the educational system in Ecuador supports bottom-up changes and the creation of teacher leaders and researchers.

Method

The researchers of this study implemented a qualitative case study methodology to examine the level of implementation of AR in Ecuador's classrooms from the participants' perspectives. This study utilized focus groups and interviews conducted in Spanish for one hour to collect data from three different groups of teachers to answer the research questions for this exploration of AR methods in the context of Ecuadorian schooling. The methodology selected for this research considered that through participation in focus groups, group discussions, and interviews (Creswell & Guetterman, 2019), the practitioners could reflect on their experiences as teachers. The interviewer was an interpreter of what was heard in the research context (Fontana & Frey, 2003).

Data Collection

The collected data document the participants' knowledge of AR and their ability to implement AR processes in their classrooms. Researchers had access to three different school settings to explore the use, knowledge, and implementation of AR in Ecuadorian classrooms. The first group of participants included teacher candidates completing their formal education training in 2015. In-service teachers from a public

school comprised the second group in 2017. Data were gathered from a third group of teachers from a private school in 2019. Although the data collection procedures were similar, the open-ended questions were different for each group. As the project evolved from work with teacher candidates in their teacher preparation program, to in-service teachers, and their implementation of AR practices in the classroom, the AR inquiry method changed.

Researchers obtained Institutional Review Board approval before conducting the research to comply with human subjects' research requirements. In 2015, teacher candidates participated in focus groups before the AR workshop and completion of a hands-on activity to practice the implementation of AR. In 2017, in-service teachers from a public school participated in focus groups before and after an AR-focused workshop. In 2019, in-service teachers from a private school participated in in-depth interviews.

The purpose of the data collection was to explore how in-classroom teachers used AR and to establish the level of knowledge teacher candidates had about the purposes and benefits of conducting AR in the classroom. The questions that guided this study were:

1. How are teacher candidates and practicing teachers prepared to conduct AR?
2. How do teacher candidates and practicing teachers implement AR in their teaching practices?

The qualitative data were audio recorded, transcribed, and analyzed utilizing a constant comparison technique to develop codes and themes. Constant comparison is an analytical process to compare existing findings with new information to develop codes by reading the entire set of data. The qualitative technique allowed for inductively coding the data so the codes could emerge during the iterative process. The data were coded (categorized) and codes were compared and grouped by similarity (Leech & Onwuegbuzie, 2007).

AR Workshops With Teacher Candidates and In-Service Public-School Teachers

The AR workshops were performed at a state university in Ecuador that prepares teachers to teach ESL in the K-12 school system. A total of 40 teacher candidates completing the last semester (eighth level) of their studies were invited to participate in the 2015 workshop. A total of 26 in-service teachers from a public school participated in the 2017 workshop. The workshop was designed to teach teachers how to implement AR processes in their classrooms.

The 5-hour workshop included topics such as (a) the basics of action research, (b) research design, (c) data analyses, (d) interpretation of results, and (e) hands-on application of AR. The workshop started with a definition of AR as a form of self-reflective inquiry that can be used to investigate and improve an educational problem (McIntyre, 2008). The next step was to communicate instruments and techniques to collect data (e.g., grades, interviews, and observations). Finally, an activity was implemented to give the teacher candidates and in-service teachers the opportunity to practice their new knowledge. Participants were divided into groups to create (a) a lesson plan including objectives, topic, duration, and assessment tools and (b) an AR plan including a problem to be researched, methodology and instruments to be used, and data analyses to be performed. In the debriefing, participants presented their work to be critiqued regarding what could be improved, how it could be improved, and why it needed revisions. Throughout the workshop, the researchers shared the different aspects of AR such as (a) the use of data to adjust lesson plans and improve outcomes, (b) the use of data to adjust instruction based on a needs assessment of the content background, and (c) understanding and identification of pedagogical strategies to address students' educational needs.

Participants

This study reports findings from the data collected from three groups of participants: (a) 2015 teacher candidates, (b) 2017 in-service teachers from a public school, and (c) 2019 in-service English teachers from a private school.

2015 Teacher Candidates

Four focus groups (each with eight candidates 22 to 25 years old with balanced gender representation) were conducted with future teachers from an urban-rural area of Ecuador. The participants were completing requirements to graduate from their teacher preparation program such as internships in K–12 schools as well as writing a thesis and undergoing clinical placements which included experiences with two different mentors in their respective classes. Three open-ended questions were posed to the teacher candidates:

1. What have you learned about AR?
2. How do you implement AR in the classroom?
3. How would you use AR to adjust instruction in the classroom?

2017 In-Service Teachers From a Public School: Workshop Participants

The participants were 26 practicing teachers (6 men and 20 women) with a range of 4 to 30 years of teaching experience. The participants taught literature and ESL at the secondary school level (Grades 9–12). Four focus groups were organized before and after the workshop. The open-ended questions for the focus groups aimed to understand the participants' training and knowledge about implementing AR:

1. How do you know how to implement AR in the classroom to adjust instruction?
2. If you know how to implement AR, please provide an example.

2019 In-Service English Teachers From a Private School: Interview of Participants

Eight practicing teachers with 10 to 18 years of teaching experience participated in one-on-one interviews. The teachers had spent their entire teaching career teaching English at different grade levels in a K–12 institution in an urban area of Ecuador. These teachers did not participate in the workshop because they were already informally using AR in their classrooms. Instead the interviews sought information about their implementation of AR through the following questions based on the steps in the AR process:

1. How do you identify academic problems in the classroom?
2. What type of information do you collect after having identified the academic problem?
3. What process do you use to study or interpret the identified academic problem?
4. How do you develop an action plan after having identified the academic problem?

Qualitative Analyses

Analysis of the findings generated three themes related to knowledge about the AR process from all three groups of participants. The first theme demonstrates the limited formal instruction about AR during program preparation or PD opportunities. The second theme shows the implicit knowledge teachers possess about the AR steps. The third theme communicates the explicit knowledge about the AR process expressed by teachers.

Limited Formal Instruction on AR

Participant responses gathered in 2015 from teacher candidates demonstrate insufficient understanding of how to find answers to educational problems using AR for data collection and subsequent analysis. During the focus group sessions held prior to the AR workshop, teacher candidates indicated they had not received any formal training focused on AR. One trainee said AR was not necessary because “educational mandates from the

Department of Education tell teachers what to teach and how to teach.” Another teacher trainee added that “the lack of available time would be a barrier to implement AR in the classroom.” Many of the teacher candidates related AR to other types of research such as using the World Wide Web to find information for completing classroom assignments. For example, a teacher candidate stated, “Lately we have had the opportunity to take students to the computer lab to search the internet.” Another mentioned: “While working on the thesis, I realized that we are used to traditional methodologies; the teacher comes and delivers instruction.” Another trainee stated that “in millennium schools, each student has his/her own computer to do research.” These statements suggest that teacher candidates were not exposed to adequate modeling about how to plan, implement, and use AR in the classroom as a systematic approach for exploring and resolving pedagogical problems.

In the focus groups held with in-service teachers before the workshop in 2017, participants were asked about their knowledge and skills in implementing AR and how they utilize information to adjust instruction. After a participant stated, “I know little about the subject,” others agreed, further indicating they had not received sufficient training either during their formal education to become teachers or through their post-graduate PD. Other teachers described AR as research that involves students. One teacher said: “It is important to look for new strategies to help students,” and others supported the comment with examples of how to get students’ attention (e.g., games).

A majority of the 2017 in-service teachers were unsure of how to implement AR to adjust instruction. Three teachers related AR to writing a research paper. One teacher indicated: “Research topics are provided and forums created for students to express their thoughts based on their culture.” Another teacher stated that “students’ research habits help them maximize the lecture time because of students’ content knowledge prior [to] the lesson.” A third teacher mentioned: “This topic [AR]

could be interesting. However, the number of students and the physical space in the classroom do not allow for it.” Four teachers provided examples of classroom research topics such as African slavery. One suggested “web self-evaluation and projects” as an example of AR. A second teacher stated: “I can be innovative and consolidate knowledge with AR in the classroom when I apply knowledge through forums, projects, etc.,” while yet another teacher mentioned, “adjust[ing] classroom instruction, a teacher should always motivate the students to be part of the complete process.”

The examples provided by the teachers in the focus groups involved content-related activities in which the student was the researcher looking for new information rather than the teachers trying to solve an academic problem based on their students’ responses. Analysis of the responses indicated that teacher candidates would benefit from learning to conduct AR (Patera et al., 2016; Stuart & Kunje, 1998). Answers to the open-ended questions did not demonstrate reflection on how teaching practices could support students from diverse backgrounds or those learning ESL. The teacher candidates and in-service teachers did not demonstrate familiarity with how AR helps monitor students’ learning and adjust instruction, nor did they provide accurate examples of what AR might look like (Nugent et al., 2012).

Implicit Knowledge About AR

The answers provided by the participants indicated they connected their teaching practices to AR concepts; however, the process of adjusting instruction was not explicitly addressed and the examples showed that teachers had limited understanding about how to adjust instruction using a systematic AR approach. The participants shared the AR process as informal and usually there are no records of its implementation.

Some participants from the 2017 in-service teacher group demonstrated implicit knowledge of the AR process. When they were asked how they identify an academic problem in the classroom, they all indicated

they use anecdotal observations of students' academic achievement. Several teachers made reference to having had a student in their classroom the previous academic year and thus being familiar with the student's behavior and academic performance. One teacher talked about a "student who was cheerful until one day the teacher saw the behavior change from cheerful to sad." She said, "I asked him what was wrong and encouraged him to grasp that he was not responsible for the problems in his family." Other participants explained that in these cases, the teachers tried to provide academic activities for the students to help them concentrate on assigned tasks.

The researchers asked about the types of data the teachers collect in their classrooms, teachers shared how "at the beginning of the school year, we administer a content test to understand the level of knowledge of the students and that information is used to study and inform instruction." When this group of teachers was asked about the action plan they developed after the AR cycle was completed, they indicated that they based the action plan on the results obtained after identification of the problem. The participants described the AR steps; however, information detailing their practices through a reflective process to identify a problem was not stated (Hendricks, 2006). Moreover, the implementation and testing of theories and interventions with students to determine the impact of implemented solutions were not clearly identified (Creswell & Guetterman, 2019). The data did not adequately indicate the level of inquiry. Thus, the information presented by the participants shows an informal implementation of the AR cycle in which teachers' experiences influence their use of interventions to solve academic issues.

Data from the 2019 in-service teachers from a private school demonstrated an implicit knowledge of the AR process. When participants were asked about identification of an academic problem, two teachers indicated that

before the lesson starts, I have an activity, such as a game, to determine the level of knowledge of the students

about the objects in the classroom. This activity helps me to categorize my students into groups based on their responses.

Other teachers noted that the English lesson about identifying parts of the body started by singing the song "Head, Shoulders, Knees, and Toes." The children enjoyed the singing, which allowed the teacher to move to the next activity and show the students both the names of the different parts of the human body (e.g., legs and head) and how sentences are formed utilizing proper grammatical structures. A teacher stated that as the English lesson about the body continued, he provided examples such as "I have a head," "He has two arms," and "They have hands." Other teachers started the lesson with a game using puppets in which the teacher named the members of the family (e.g., grandmother, sister, and father) using the puppets. The teacher asked the students to repeat the names. Two teachers stated they give first-grade students a test before the lesson is conducted. "I may decide to group students with more knowledge and students demonstrating less knowledge in small groups."

The teachers used information gathered through an activity or a test to frame the next steps of instruction. Some teachers "deliver instruction utilizing a variety of strategies (e.g., lecture, working in groups, and worksheets)." Then "I ask the students several questions to assess the level of comprehension of the new knowledge." Other teachers provide worksheets for the students to practice recognizing the body parts and generating sentences. Another strategy was working together to match pictures with sentences: "This matching activity in groups helped the students who did not understand the lecture...his/her friends in the group would help him/her to recognize the days of the week in the classroom assignment." Other teachers used a coloring/matching activity "to teach the names of the different objects in a house (e.g., chair and table)." One noted,

I also provide a worksheet including words and a house for the students to circle the objects in the house. If a student does not recognize the name of the objects in the house, s/he is expected to ask, "what is that?"

Prior to the workshop debriefing, when the teachers were asked about developing an action plan to support learning based on the students' needs. A teacher noted, I will have to tailor instruction because the homework shows that I have to reinforce the information for some of the students...Most likely, I will divide the students into groups. Each group will be assigned a different activity while I work with the students that need extra instruction.

One teacher listed her next steps to ensure mastery. She noted that concepts from a lesson are included in follow-up lessons, assignments, and assessments. She claimed this gives her "the opportunity to follow up with my students to monitor the gaps in knowledge." Other teachers indicated there are always more opportunities to reinforce information in the future. Another teacher indicated that

at this point, I am not going to assess any content knowledge for this lesson because I am going to continue building on this knowledge for the next two lessons...I will assess content at the end, and I will decide what needs to be done.

Other teachers noted, The students will have other opportunities to learn the names of the objects. I am interested in their listening skills, speaking skills, and how they would ask about what they don't know (e.g., "what is that?" "what is the name of that?").

When asked about the next steps, the teacher indicated: "This knowledge will be included in the next lesson...the new words will be used."

The participants explained identification of the problem, data collection, data analysis and interpretation,

and an action plan (Mills, 2007), which are part of the AR cycle; however, connecting the reflexivity process to the problem to be solved was not clearly indicated (Hendricks, 2006). Moreover, the interventions presented by the participants seemed to indicate classroom strategies instead of testing the impact of interventions on students' academic achievement (Creswell & Guetterman, 2019). These results demonstrated that in-service teachers in the public school and the private school applied the AR stages to enhance pedagogical approaches and classroom assessments and to adjust instruction in their classrooms without explicitly knowing it.

Explicit Knowledge About AR

Three in-service public-school teachers in the group from 2017 expressed understanding how to use the AR process to adjust instruction. They collected information by administering content pre-tests, analyzing the results to identify academic and behavioral problems, and identifying strategies to be implemented with specific students. They incorporated the strategies into academic plans involving three pillars: cognitive, psychomotor, and affective. During data collection, the teachers used classroom activities and homework to determine concepts that needed to be retaught as suggested by the gathered data.

When teachers developed an action plan, they described previously implemented instructional strategies, such as engaging students in an activity in games or small groups work. They shared that they monitored the students' knowledge and knowledge gains through scaffolded instructional tasks. Although the AR steps were identified, the participants did not explicitly identify the self-reflection component of AR. Self-reflection is important to improve teachers' teaching methods, so the absence of this process might indicate the teachers depended on their experience to implement strategies to improve students' academic outcomes.

The findings show teacher candidates had limited exposure to the AR process during their formal educa-

tion about how to enhance pedagogical approaches, select classroom assessments, and adjust instruction based on the students' needs to meet the desired academic achievement. On the other hand, the results from practicing teachers in the public school and the private schools demonstrated they applied the AR stages in their classrooms without explicitly knowing it, as only three in-service teachers explained the AR process and how they used it in the classroom. Furthermore, a common thread was the teachers' limited use of self-reflection to improve teaching pedagogies and students' academic achievement outcomes. Having teachers with the knowledge and skill to adjust instruction based on students' needs will enhance the education system (Barber & Mourshed, 2007; Van Damme et al., 2013).

Conclusions and Implications

This paper investigated Ecuadorian pre-service and in-service teachers' ability to conduct AR in the classroom and their skills to efficiently adjust instruction to address students' cultural and linguistic diversity. The participants' knowledge of the AR cycle demonstrated insufficient clarity of the definition and appropriate use of AR. After exposure to AR concepts in the workshops, data suggest teachers grasped the benefits of AR for improving their teaching practices; however, a discussion of limitations such as time and resources to sustain the methodology was also present, evidencing obstacles to be overcome. Several researchers (Burns et al., 2016; Edwards, 2020; Edwards & Burns, 2016; Mehrani, 2017) identified the benefits of AR for supporting teachers in their educational role; however, they also found that issues with time and administration support created a formidable challenge to the sustainability of AR in the classroom.

It is evident that Ecuadorian educators found the AR process informative and applicable to their practice, paralleling research that has demonstrated the importance of implementing the AR cycle based on the teachers' reflections (Edwards, 2020; McIntyre, 2008;

Mills, 2007; Santoro Lamelas, 2020; Soto Gómez et al., 2019; Stuart & Kunje, 1998; Wyatt, 2011; York-Barr et al., 2016). Edwards (2020) stated that teachers benefit from AR by increasing their awareness of teaching-related practices and research-related development that can lead them to new skills, beliefs, and engagement as well as identification of their educators' roles.

Findings in this study indicate the need to prepare teachers to understand AR and be able to implement the AR process to improve academic outcomes. Currently, participants seemed to perform the AR steps in their formative and summative assessments of students as well as for students' performance to adjust instruction, but collectively, none of the three groups described the reflection process as a means for adjusting instruction to meet desired academic goals based on students' needs, particularly students learning ESL, or to adjust instruction based on the multicultural and multilingual environment of the classroom (Organic Law of Intercultural Education, 2012). The awareness of the process will improve teachers' practices and "(possibly) maintain a reflective research perspective" (Edwards, 2020, p. 9). AR is a tool for systematically approaching the improvement of teaching practices through reflection to connect theory to practice (Creswell & Guetterman, 2019).

There are a few implications. First is the importance of reflecting on AR as a journey instead of implementing a "fixed set of ideas" (Mokuku, 2001, p. 197). If the ability to implement AR in classrooms is essential and Ecuadorian teachers, like those in this study, do not seem to have had formal exposure to this practice in training programs, teacher education institutions may want to look at increasing this type of training. Collaboration with university researchers can provide mentorship opportunities to train teachers as researchers to improve teachers' pedagogical practices and students' academics (Edwards, 2020; Rahmani-Doqaruni, 2014). Second, the school community influences the need of merging PD with AR for teachers to improve academics in the classroom. As the AR process uncovers instructional

gaps and/or other academic issues to be solved, the process to explain them will create opportunities for teachers to support all students, including those with multilingual and multicultural backgrounds. Finally, the findings of this study could drive change in school policy and practice to empower those committed to the AR process to improve themselves and lead other teachers to better their teaching practices. The limitations of the study include the reality that AR is scarce in Ecuador as are the qualitative data focused on a small portion of AR and its conditions to implement it in the classroom.

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