Praxis for a Post-Information Future: Evaluating the Impact of a Pedagogical Framework Based on Experiential Learning

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This paper traces the implementation of a pedagogical framework in a low-cost private school in Karachi designed to put students' engagement with the world at the center of the learning process. The need for such a framework arose as a response to the realization that education system in Pakistan is lagging behind in preparing children of a post-information future. Through classroom observations, formal and informal interviews, and assessment of lesson plans conducted over the period of a year, the study investigated whether a learning cycle based on experiential learning could enhance student engagement in the learning process and help them develop the skills necessary to navigate an increasingly uncertain future. The observations before and after the training revealed significant impact on such variables as divergent thinking, the ability to ask open-ended questions, and willingness to probe concepts deeper as opposed to passive learning.

Keywords: student engagement, learning cycle, experiential learning, critical pedagogy, lesson planning, critical thinking, instructional design

Educators, social scientists, and policy makers agree that Pakistan is facing an education emergency in matters of both quantity and quality. While we lament the 22.8 million children out of school in the country (UNICEF, 2020), deficiency of trained teachers; lack of unified curriculum; outdated textbooks; multiple examination boards, and unrealized policies are some of the many hurdles facing provision of quality education in the country (Lall, 2012; Siddiqui, 2016). Moreover, the existence of multiple educational institutions – public schools, elite private schools, madaris, etc. – cater to particular socioeconomic classes and contribute to further social stratification which also exacerbate the challenges (Malik, 2012; Rahman, 2004; Siddiqui, 2012). These difficulties have resulted in reducing education from being a transformative experience for its seekers and the society as a whole to merely being a time-bound process of acquiring knowledge that is incomprehensible and irrelevant to the current local and global scenario. With their focus on transmitting a fixed amount of knowledge, rote-memorization, and standardized testing, education system in Pakistan appears to be rooted in pedagogies of the past while preparing learners for an ever-evolving and unpredictable future (Shabeen, 2011; Malik, 2012).

Such an approach, which Papert (1993) terms as instructionism, was promising in Industrial age but is hardly a solution to the problems posed in the 21st century. We are quickly moving towards a post–information age, which is characterized by civic

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disengagement despite an influx of information and increasing social connectedness (Taube, 2004). While the present pedagogical model is driven primarily by the needs of Industrial age that assumes a one-size-fits-all approach, this age poses a unique crisis of understanding and demands a pedagogy that not only builds "deep conceptual understanding" (Sawyer, 2014, p. 2) but also allows the learner to position himself and his knowledge in relation to the world. Hence, the post-information era necessitates the development of individuals' engagement with global issues together with conceptual development.

This paper presents a pedagogical framework for training teachers to reconceptualize the purpose of education as a tool for personal and social transformation. The study described in the paper trained teachers of a trust-based school in Pakistan on using the framework to increase students' engagement with the world. Findings from post-training assessments show that students demonstrated – among others – increased ability to connect classroom concepts to the real world, to ask open-ended questions, and to engage in critical discussions. Beginning with a brief overview of the need for such a framework, the paper summarizes literature on experiential learning and critical pedagogy – two theories that form the basis of the framework presented. Next, the paper delves into a description of the 5A framework, using an example from the study. The two succeeding sections on findings and discussion present the impact of implementing the framework.

Background of the Study

The framework proposed in this paper is one part of a year-long consultancy program for school development operating in Karachi, Pakistan. The need for a framework arose in response to the observation that one-time workshops and training have limited impact on empowering teachers and enhancing pedagogy. While there is an abundance of research on sound pedagogical practices, there are no holistic frameworks that provide a sustainable approach to teacher development and meaningful learning in the classroom. An initial assessment of teaching practices employed at the school under study showed that passive learning was a pervasive issue in the classrooms. This meant that students were disengaged with what they were learning and could not relate it to their own experiences owing to the use of rote-learning or lecture-based teaching practices. Simultaneously, content presented to the students was disconnected with the world outside as a result of – among others – outdated or missing real-life examples and rigid or unquestionable conclusions in the texts.

An example of this phenomenon was an observation made by the authors in a class session where grade 7 students were learning about climate change. The teacher read and translated the Social Studies chapter on climate change into native language, explained what it said, and students were finally made to answer questions that tested whether they understood what was written in the book. While at the end of the class the students could narrate a handful of facts relating to the topic, they did not come out of the learning process more aware of the implication of climate change, how it impacts our societies socially and economically, possible political and economic reasons behind the issue, and more importantly, their responsibility as citizens of the world. Such observations led the authors of this study to peruse literature on 21st

century pedagogy that aimed at promoting students' engagement of the learning process with their lived experiences as well as local and global issues.

Literature Review

Borrowing from the authors' academic training in philosophy and psychology respectively, the 5A framework synthesizes research on experiential learning and critical pedagogy, presenting a code of practice that turns students into primary actors in the learning process. As part of the framework, the classroom is reconceptualized as a space for crafting an experience for the learner and the teachers as masters of that craft. This method stands in contrast to narrative education or the 'banking concept of education' criticized by Freire (1968/2005) in his seminal work, *Pedagogy of the Oppressed*. Freire (2005) cogently articulates the oppressive nature of the modern education system where the learner is merely a passive recipient of disembodied knowledge that is narrated to the student by the teacher as a primary actor. The alternative, as the twentieth century scholars argued, is critical pedagogy.

Giroux (2019) interprets critical pedagogy as one that "views education as central to creating students who are socially responsible and civically engaged citizens" and distinguishes it from a pedagogy of repression that exists "to wield authority over passive subjects" (p. 509). In the same vein, building on the works of earlier pragmatic philosophers as well as social and cognitive psychologists, Kolb (2015) argued that learning is the result of the interplay between grasping and transforming experience. As opposed to the purely behavioral or cognitive view of learning, experiential learning emphasizes the necessity of combining sense experience with higher order reflection to create knowledge that can be used in novel situations. While both theories – experiential learning and critical pedagogy – define two distinct philosophies of teaching and learning, their emphasis on making learning a process of critical engagement with lived experience proves to be a fitting response to the demands of 21st century education.

The current pedagogical trajectory – that considers knowledge as fixed and teachers as the ultimate dispensers of that knowledge – is centered around the age-old question: what should students know about the world? Alternatively, the concept of student engagement with the world argues that a different approach to designing curriculum and deploying pedagogy is needed which instead inquires: what do my students think about the world? This idea captures, to some degree, Freire's notion of "reading the world" (Freire & Macedo, 2005). Similar to Freire's idea that reading of the word and world are interconnected, students' engagement with the world outlines the idea that the learning process is not merely an identification or comprehension of the world by the students but also a positioning of the self in the world. Eleanor Duckworth (2006) mentions a similar notion in her book, *The Having of Wonderful Ideas*. She writes,

> As Lisa Schneier (personal communication, 1997) has said, we must find ways to present subject matter that will enable learners to get at their own thoughts about it. Then we must take those thoughts seriously, and set about helping students to pursue them in greater breadth and depth. (p. xiii)

This thought resonated with many twentieth century educationists such as Earl C. Kelly, who proposed that learning is the process of interacting with experience and deducing meaning from it (Raiola, 2011). This serves as a reminder for educators to

consider education as an interactive and immersive experience as opposed to merely being a narration of facts expounded by theorists or researchers of the past. In the same vein, Rachel Carson (1988) – a marine biologist and educator – presented a contrast between the learning process as a "way for the child to want to know" and education just being "a diet of facts" (p. 33). All of these educators present a mutual vision of what a pedagogy built on students' engagement with the world represents and its significance in the learning process.

The 5As – A Theoretical Framework

Adopting from the work on experiential learning, the process reflects the neurological basis of learning whereby new experiences – synaptic activation – modify neural pathways, resulting in growth and pruning of neural networks (Zull, 2002; 2011). Similarly, the framework follows a simple process for forming new learning:

- Experiencing a phenomenon
- Making sense of the experience
- Forming a judgement about the experience

Deriving from the above, the framework comprises five phases: Aim, Activate, Analyze, Apply, Assess (See Figure 1). In the classroom, teachers enable students to experience learning as a process of engaging with the world by guiding students through these phases. Unlike traditional pedagogies, the 5A framework blurs the clear demarcation between the roles of the teacher and student. Instead the students and their experience of the world become the primary focus of the learning process and the teachers assume the role of the "leader-facilitator," that is: they simultaneously provide vision while also extending freedom to the students (Breunig, 2011, p. 60). Freire (2005), Carson (1988), Duckworth (2006), and many others have also reinforced the notion of the teaching and learning process being mutual. The following subsections outline the five phases in detail and present examples from a grade 6 lesson on the impact of plastic on the environment conducted by a teacher as part of this study (See Table 2).

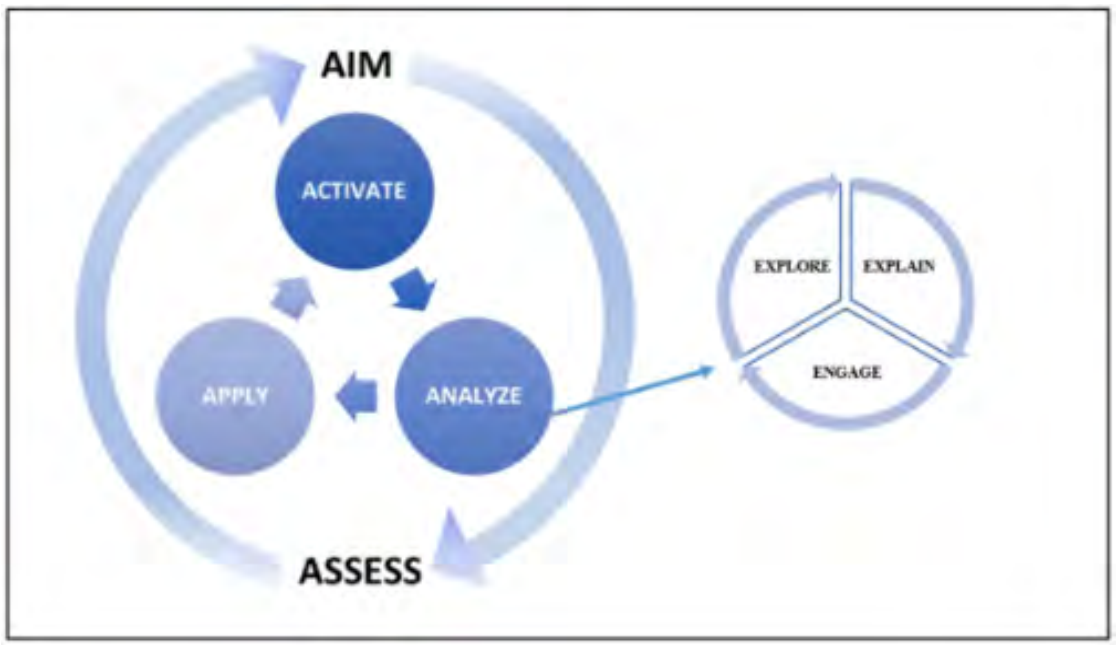

Figure 1. *Illustration of the 5A Framework*

Aim

As part of the 5A framework, the learning process is a journey of discovering meaningful ideas that help learners understand their experience of the world. The first phase of the framework, Aim, determines the desired end goals of the learning process. Since the purpose of learning is not merely the accumulation of knowledge but students' engagement with it, the learning process constitutes three dimensions: knowledge, analysis, and application. Dewey (1933) - who laid the foundation for connecting experience with learning - outlines the tenets of reflective thought which hint at these three dimensions:

> Information related to it [observation/experience] is not merely amassed and then left in a heap; it is classified and subdivided so as to be available as needed. Inferences are made by most men not from purely speculative motives, but because they are necessary for the efficient performance of the duties involved in their several callings. (p. 49)

The end goal of the thinking process then becomes applicative. Whatever we learn is needed to be applied somewhere. For instance, a part of the lesson on the impact of plastics on the environment, a sample of the learning goals and outcomes designed for this topic is given Table 1 (See Table 1).

Table 1. *Example Learning Goals & Outcomes for a Lesson on the Impact of Plastic*

Dimension	**Learning Goal**	**Learning Outcome**
Knowledge	I want the students to know the impact of plastic on the environment.	Students will outline the benefits and dangers of using plastic products (such as cheap product, easily available, but difficult to decompose, danger to marine life, etc.)
Analysis	I want students to analyze the dangers of continued use of plastic and solutions to the problem.	Students will compare different alternatives to using plastics.
Application	I want students to apply their understanding of the topic to bring one change in their immediate environment that could counter the impact of plastic.	Students will propose, plan, and implement a change in their immediate environment that can counter the impact of plastic.

She began her class by writing on the board the term Plastic Planet and asked her students what that could mean. Spending a few minutes to discuss their initial ideas, she proceeded to share the goals with her students, allowing them to self-regulate their learning. As such, the Aim of a lesson determines the roadmap of this learning journey for the teacher and student - both of whom act as co-inquirers in the process.

Activate

Having laid out the map of the learning journey upfront, it is now important to motivate learners to partake in the process. The willingness comes when learners are met with a problem or a puzzle that initiates reflective thought (Dewey, 1933). As a result, curiosity is ignited which Dewey believes is one of the three "native resources" required for fruitful learning (1933, p. 35). The second phase, Activate, then becomes the Central Experience - the first impression of the topic - which kickstarts learning. Keeping in view the learning sought, the teacher could present a story, an experiment, a word problem, a visual, or simulate a real-life situation. Using the example of the lesson on the impact of plastic, one way the teacher presented a Central Experience to activate her students' curiosities was to help them understand that plastic does not decompose easily and hovers in the environment for thousands of years. Two days before the beginning of her lesson plastics, she shared a temporary new policy for their class: No student was allowed to take any plastic product outside of the class. As a result, for two days, students collected all their plastic-based trash and stored it in the bins, shelves, and desks of the classroom. By the time her lesson began on the third day, students could see a substantial amount of trash everywhere. The teacher asked her students to imagine what would happen if the policy continued. In groups, as students brainstormed consequences of not being able to dispose of the trash – not having space to sleep, too much pollution, dirty and messy classroom experience, etc. – the teacher prompted students to consider their classroom as an analogy for Earth. She shared with her students the general idea that plastics took very long to dispose and asked them to pen down the possible groups of people, animals, plants, or marine life that might be impacted by this problem.

Analyze

The Central Experience presented in the Activate phase is the dilemma that hooks the learners making it the medium through which necessary knowledge and skills are developed. Having experienced the abundance of plastic in their lives, students investigate the relation between plastic and the environment. To scaffold the process of analyzing the Central Experience, teachers lead students through three steps: Explore, Explain, Engage. We will consider each step using the example from the previous sections.

Explore. The teacher guides student exploration using a prompt that jumpstarts inquiry and encourages them to ask questions. This step borrows from Dan Rothstein and Luz Santana's simple process of encouraging inquiry – the Question Formulation Technique (Rothstein & Santana, 2011). For this topic, the teacher used a provocative quotation by an American actress and activist, Sophie Bush: 'To me, I think people who don't think it's a big deal to toss a plastic bottle in the garbage are not only being irresponsible, but I think they're being disrespectful of all the other humans on earth.' Students use this prompt to ask as many questions as they can while exploring the quotation, their Central Experience, and the topic at hand.

Explain. Having problematized their experience by raising a diverse set of questions, learners then move on to look for answers. The 5A framework encourages teachers to be facilitators of learning. For that purpose, teachers purposefully select books, speakers, discussion prompts, and other activities that will help learners discover concepts and ideas pertinent to the learning goals to help them fill gaps in their

understanding identified in the Explore phase. For the lesson on the impact of plastic, students watched a documentary called Plastic Planet, read articles on the impact of plastics on marine life, and read a chapter from their books on the composition and decomposition of plastic.

Engage. The engage phase borrows from Richard Paul's (2012) model for explicitly learning to think in a disciplined fashion (Nosich, 2011). This phase creates a space for dialogue in which teachers model higher-order thinking by helping students question their experiences, the knowledge they have received, the sources of that knowledge, and their assumptions. For instance, in the lesson on plastics, an idea that constantly resurfaced was the proposition of banning plastic products. One of the students who had a family member with a disability questioned the soundness of the proposition countering that banning plastics altogether could make simple tasks difficult for certain groups of people such as using a straw to drink water – especially for people who could not afford expensive alternatives.

In the classroom, the Explain and Engage steps often occur simultaneously and repeatedly with students acquiring knowledge from various sources while critically reflecting on it and connecting it to their experiences.

Apply

The apply phase is a response to the oft-quoted lament that our education system is producing graduates who can recount distinct bits of disjointed information but are unable to produce original thoughts, solutions, or ideas on important local and global issues. As pointed out by Dewey (1938) that meaningful learning allows the learner to reflect on their experiences and to extract from them knowledge that can be used to serve us better in the future. The Application phase has a specific requirement: to be able to successfully apply a concept, phenomenon, or theory learnt in the classroom, learners should be able to use it to explain a phenomenon or solve a problem found in the real world. For the lesson on plastics, students applied their learning to impact various kinds of changes within their school. Some students petitioned to have separate bins installed for plastic trash and contacted organizations, with the help of their teacher, that would buy and recycle plastic waste. Others ran awareness campaigns for younger students, explaining to them why too much plastic was dangerous and how to limit single-use plastics.

Assess

Despite being placed at the end of the 5A learning cycle, the Assess phase hardly happens at the end. In contrast to the customary style of conducting tests at the end of the learning process, the 5A framework reconceptualizes assessments as activities conducted at any stage of the learning process which informs learners of their progress in attaining the aim set out in the beginning of the learning process. Such assessments are designed with the purpose of identifying not just the mastery of content but necessary skills as well, such as the ability to raise intelligent questions, think critically, solve problems, communicate thoughts, and present ideas creatively. Moreover, insights from assessments eventually also become the guiding points for teachers to plan goals for future lessons. During the lesson on plastics, students were given various forms of assessments. One way students were made to recall the information they gathered was by giving them short quizzes on the documentary they watched

and the texts they read. At another point, students were asked to share one-line reflections on the critical discussions they had in the Engage phase within their groups. The final project in the Apply phase was scored using a rubric designed together by the students and teachers.

Table 2. *Summary of the 5A Framework with Example*

Phase	**Purpose**	**Example**
Aim	Teachers plan goals and outcomes to guide learning and share them with students to allow them to self-regulate the learning process.	Topic: Impact of Plastics on the Environment Teacher asks students to think about the term Plastic Planet and shares goals and outcomes of the topic. Students briefly share initial thoughts about the aim.
Activate	Teachers present a Central Experience pertinent to the lesson to ignite students' curiosities.	Students are prompted to follow the new temporary policy: students are not allowed to take plastic-based trash outside of their classrooms. Students brainstorm what would happen if such a policy was not reversed. This helps students realize, through an analogy, the short and long-term impact of plastics on the environment.
Analyze	Teachers lead students through three steps to inquire and critically reflect on their learning.	
	Explore: Students are prompted to ask questions about the Central Experience and connect it to the day's learning goals.	Teacher Prompt: 'To me, I think people who don't think it's a big deal to toss a plastic bottle in the garbage are not only being irresponsible, but I think they're being disrespectful of all the other humans on earth.' Example Questions by Students: • How is using plastic disrespectful to humans? • Isn't throwing plastic in the bin a good idea? • Why is plastic bad?
	Explain: Students peruse various sources to acquire information and ideas relevant to the topic and to the questions they have raised in the previous step.	Students watch a documentary called Plastic Planet, read articles on the impact of plastics on marine life, and read a chapter from their books on the composition and decomposition of plastic.

	Engage: Teachers engage students in a critical dialogue by helping students question their experiences, the knowledge they have received, the sources of that knowledge, and their assumptions.	Teachers and students discuss the information taken from the various sources and their own experiences relating to the topic. Teacher models higher-order thinking by prompting students to think about the various solutions to the plastic problem and weigh the pros and cons of each for the various stakeholders in the environment such as different groups of people, animals, marine life, etc.
Apply	Students apply their learning to explain a phenomenon or solve a problem found in the real world.	Students work in groups on a project of their own choosing. They are provided with a rubric to ensure that the projects meet pre-established criteria.
Assess	Students are assessed throughout the learning process using various formative and summative methods of assessments to demonstrate whether the aims put forward have been met.	Students complete short quizzes at various points in the learning process such as after watching a documentary in Explain phase and after the discussion in Engage phase, Student are marked for participation in Engage discussion using a pre-established rubric. Their projects in the Apply phase are graded using a checklist. All of these assessments together form the final grade for each student.

Methodology

The year-long, qualitative study consisted of training teachers of a low-fee, K12 private school to use the 5A framework and assess the impact of implementing it in the classroom. The school comprises two campuses and was funded by a private educational trust committed to improving the quality of education offered. The school is located in a suburb of Karachi populated by middle- and lower-class families and caters to students from diverse backgrounds. The teacher to student ratio is 1:25 in the primary grades and 1:20 in the secondary grades. Around 20 percent of students enrolled come from two local orphanages and the school provides foundational classes for basic literacy. Moreover, the financial assistance policy of the school provides complete or partial fee relaxation to students after a rigorous process. The study was broadly divided into three phases: pre-training assessment, training, and post-training assessment. Data was collected from 150 classroom observations, 25 formal and informal interviews, and assessment of 200 lesson plans designed by the teachers. The training was conducted with 50 teachers of different subjects from grade 1 till 12. Due to a high teacher turnover – owing to the teachers receiving low salaries, getting married or pursuing higher studies – several teachers left the school or were transferred between different campuses; as such, data from 12 teachers who participated in the study from the beginning and remained till the end was considered for analysis. The school follows the Sindh Board of Education, and graduating

students have to sit for their standardized board examination at the end of grades IX and X. As policy, the school hired individuals with at least a graduation in relevant disciplines; however, due to lack of competent candidates, the administration had to compromise on hiring teachers with at least a graduation in no specific discipline for most grades and subjects. Around 25% of teachers had previously attended trainings pertaining to different areas such as classroom management, child development, lesson planning, and other subject-specific workshops.

The researchers believed that significant impact on the teaching style could be seen if teachers planned their lessons based on the 5A framework under expert guidance before implementing them in the classroom. As such, teachers engaged in lesson planning every month and received feedback from researchers. Using a standardized checklist originally developed by University of Southern California's Center of Excellence in Teaching (USC, 2020), teachers and students were observed twice each month in one-hour units. After the first phase, teachers were trained by the researchers on planning and delivering lessons based on the 5A framework. The training consisted of 50 hours of workshops on incorporating the framework in their teaching as well as individual coaching sessions to help them deal with specific challenges. After the training, researchers extended feedback every month to teachers on their lesson plans and conducted at least two classroom observations for every teacher (one planned and one random) to assess the impact of the training on teaching style as well as student engagement.

Findings

This section presents findings pertaining to two major areas where training was focused: student engagement and lesson planning using the framework.

Student Engagement

Student engagement was broken down into the following variables: the quality of questions and linking classroom concepts to real world.

Pre-Training. A clear demarcation between disciplined and undisciplined behavior dominated student-teacher interaction. Students were regularly reminded that they were to remain quiet unless they were asked a question or needed clarification. Engagement with the content presented to the students was limited to explanation by the teacher followed by close-ended questions to the students to ensure that content had been understood and learnt. The result was learners' incapacity to produce original answers or ideas which teachers in the study attributed to lack of literacy, attention, and motivation on the part of students.

Moreover, almost all of the 12 teachers did not share learning outcomes with the students and began their classes either directly with explanation of the topic or with close-ended questions. Except for two teachers teaching Science for grades 3 and 8, application of concepts to the real world was missing. Most classes were structured around explanation and practice exercises or question and answers narrated by the teachers to the students. When asked during the interview whether the practice of narrating both questions and answers to the students was burdensome for the teachers and counterproductive for the students, teachers responded saying that students were incapable of producing original answers and made a lot of mistakes which is why

answers had to be dictated. Students later memorized these answers for exams. Only one teacher teaching Social Studies to grade 9 encouraged student-generated discussions in the classroom by asking open-ended questions.

Post-Training. As part of the framework, teachers were instructed to engage students in asking open-ended questions and holding critical discussions. An analysis of the questions produced by students showed that overtime learners produced more questions that were open-ended and considered linkages of the primary topic to other topics in the same discipline or other disciplines. During informal interviews, teachers explained that students displayed more energy and enthusiasm for learning concepts in classes where students were given the freedom to produce questions before explanation. One of the teachers, teaching Math to grade 1 – commented that beginning lessons with Activate and Explore phase made it easy for her to conduct the rest of the lesson because by the time her students reached the Explain and Engage phase, they had already thought extensively about the concepts. Explanations, which were usually considered boring by the students because they were given using teacher-directed lectures, became student-driven and exciting.

Student engagement with the learning process showed the most significant improvement when teachers began using real life examples to teach concepts and encouraged students to link ideas to their own lives. During informal interviews, teachers seemed content to share that students who rarely participated in class had stories and examples to contribute to discussions. One teacher from a grade 3 class commented: 'Many students are eager to share their stories. We have to think of ways to accommodate everybody in the limited class time.' When asked possible reasons for such a change, she said: 'We are asking students to share their stories and about times when they or somebody they know experienced something related to what we are learning.' Another teacher who taught grade 6 Social Studies explained that many of his students came from working class backgrounds and spent a lot of time on the streets. When sharing how the framework has impacted the level of student engagement in his class, he said: 'My students are getting a chance to combine their street life with school life because I give them the space to talk about things that are relevant to them.'

Lesson Planning

Pre-Training. Before the training, teachers were asked to submit their lesson plans for the previous year to understand their current approach. Of the 12 teachers, only 4 had plans they had made specifically for their students, the rest either did not use plans, or used teacher guides instead. The teachers who did submit original plans did not seem to follow a specific method for lesson planning and almost all of the plans used different approaches to teaching the content. Some common elements in the plans included identification of topic and subtopic, exercises to be done in class, and homework. Only one teacher, for Grade 8 English, differed from the general trend and identified the expected prior knowledge of students in the plan and mentioned the development of language skills. None of the plans mentioned any strategies for applicative learning, skill-based teaching, or active learning. Moreover, teachers were also asked during the interviews on their opinion on the need for lesson plans. Those who did not prepare any plans emphasized that their experience in the profession rendered the plan unnecessary. Most teachers even went on to say that preparing

lesson plans was an added task which did not contribute much to the teaching and learning process.

Post-Training. However, as part of the intervention teachers were required to make lesson plans for every session under the guidance of researchers. Since the structure of the plan was such that teachers were required to brainstorm critical questions and real-life applications of concepts they were teaching, they were bound to include these elements. Insofar that the framework bound the teachers on these elements, it acted as continued professional development for them because teachers were required every month to think critically about their subjects, find applications of the concepts they were teaching, and be informed about the origins of big ideas in their disciplines while making their lesson plans. This helped combat a problem prevalent before the training in which teachers considered content from the prescribed books as the only knowledge available on the subjects. They were driven to review other sources for a better understanding of what they were teaching simultaneously dealing with the challenge of untrained teachers or teachers with limited content-mastery. The Math Coordinator for primary grades shared the following when asked how this framework helped teachers: 'This model has been designed for growth of the teacher because it requires first for the teacher to be prepared before she finally takes the lesson to the students. Once teacher is trained and has learnt only then he/she can deliver to the students fruitfully.'

Discussion

An area in the study that showed the quickest change was student engagement, and post-training observations demonstrated that an intervention as simple as introducing opportunity for sharing learner experiences and stories in regular lessons could have a significant impact on engaging the learners in the learning process. This contrasted sharply with the pre-training observations where students were alienated from the learning process by eliminating their voices and disconnecting the ideas that they studied in the classroom from their lives. Such a scenario was reminiscent of Freire's (2005) idea that education, as a one-way process, had the tendency to be oppressive insofar that it explicitly excluded students' lived experiences and thoughts about the world. Implementing a framework that incorporates such a space brought learners back into the learning process and made them active agents in the classroom.

Throughout the framework, there are several ways of allowing students the opportunity to connect learning with what matters to them. While sharing lived experiences relevant to the lesson is one way, asking questions that are significant for them is another way to help students identify with the learning process. An example that brought this to the forefront was a grade 8 Social Studies lesson on rural to urban migration. When students were prompted to share questions that they could think of relating to the topic, many of them connected rural to urban migration to infrastructural deterioration and overpopulation of cities like Karachi. This is in line with Dan Rothstein and Luz Santana's study where they saw that, when given the opportunity, students engaged in divergent thinking which helped them employ different perspectives to think about the same topic (Rothstein & Santana, 2011). This also showed that such issues did not go unnoticed by the young learners but were ideas that they considered. Such ideas, if left unexamined, take the form of unchecked biases and prejudices. Dewey (1933) also hints at this notion differentiating the

disciplined reflective thought from random thought. In the example above, the teacher took the opportunity to help students consider the various dimensions of the issue. For instance, she asked students to consider why anybody would want to leave their hometowns and families to migrate, and to consider both the benefits and challenges of rural to urban migration for the cities as well as the migrants.

Moreover, as researchers undertook the year-long program with the school, a trend emerged. In the first quarter of the year, teachers were wary of the training as the framework was introduced and implementation began. Teachers with a teaching experience of eight years or more often commented that they didn't require training and knew the content that they had to teach inside out. However, in the second quarter of the program, teachers noticed the impact on student participation and input, and realized that the program was worth giving a try. In an informal conversation, a grade 5 Urdu teacher said: 'I have to do a lot of work to prepare the lesson plan but in the classroom, I do less work and it is my students who do the most work.' While student engagement and inquiry were a positive change for the researchers, teachers – around the third and fourth quarter – felt that implementing the framework hindered in covering the curriculum prescribed by the school administration and the examination board. This suggested that despite being given a framework to encourage students to think beyond pre-established content, teachers still believed that their primary responsibility was to cover the prescribed curriculum. This reminded of Duckworth's plea to the educators to discard the idea of transmitting all the prescribed knowledge, and instead to "make such knowledge…seem interesting and accessible to the child" (2006, p. 8). However, such a change requires a re-evaluation of the philosophy of teaching; while the framework does help shape teachers' ideas about the transformative nature of education, the researchers hypothesize that a change in perception and philosophy of education require a significant amount of time and mentoring.

Limitations & Implications

The impact of the framework on students' academic results and content mastery was out of the scope of the study. Hence, the paper does not discuss if the framework affects academic scores and students' performance on standardized tests. Future studies can assess the impact of the framework on students' academic performance particularly focusing on the role of critical thinking and student engagement with learning on content mastery and performance on standardized tests.

Moreover, during the study, it was observed that while some teachers were quick to take up the new practice and endeavored to brainstorm creative ways to deliver their lessons, most other teachers often appeared demotivated or reluctant to change current practice. The researchers hypothesize that passion towards teaching could be a contributing factor in explaining the progress some teachers made throughout the year as well as the reluctance towards change shown by other teachers. A particularly interesting area for further training could be facilitating teachers to recognize their roles as social change agents before training them on specific skills.

Conclusion

This paper argues for a bottom-up approach to pedagogical transformation, as opposed to a top-down approach that demands progressive policies for change. That is not to say that more informed national policies and external support are not needed or significant. Instead, similar to the suggestion offered by Razzaq and Forde (2014), this paper argues that for a reform to be substantially transformative and sustainable it has to include the primary stakeholders – the teachers – and to translate policies, suggestions, and research into practice for the classrooms.

The 5A framework offers such a praxis that borrows from big ideas in education which have proven to be effective in isolation but have not been presented as a coherent model for teaching and learning yet. The framework has presented the ability to carve a niche for itself in any classroom owing to the flexibility with which it can be implemented. Most teachers, who participated in the study, found that the framework gave them freedom to employ a variety of techniques ensuring that teachers also had ample opportunities for learning and growth alongside the students.

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Appendix

Classroom Observation Checklist

DIMENSION	SUBSTANDARD TIER (BELOW MINIMUM)	TIER 1 (MINIMUM)	TIER 2 (PROFICIENT)	TIER 3 (EXCELLENT)
Class Organization				
Instructional plan	• Instructor changes the established class session plan without prior notification to students.	• The class session demonstrates clear signs of planning and organization, and follows a logical flow.	• The class session includes instruction and formative assessment to assess student learning for that class session.	• The class session includes instruction, formative assessment, and reflection components.
Communication of clear learning goals for the class session	• Instructor communicates no learning goals for the class session and/or each lesson activity. • Instructor communicates inappropriate or unrealistic learning goals for the class session and/or each lesson activity.	• Instructor clearly identifies realistic learning goals for the class session.	• Instructor clearly connects the learning goals for the class session to the course learning objectives.	• Instructor clearly identifies the learning goals for each instructional activity, and connects them to the course learning objectives.
Time management	• Room and/or technology issues occur during class that could have been addressed before the start of class.	• The class session starts and ends on time. • Planned sections of the class session are well-timed. • Little or no time spent on non-instructional activities.	• Instructor utilizes and references educational technology for passive learning activities outside of class to support effective use of in-class time.	• Instructor maximizes in-class time, using active learning or applications rather than passive learning. • Instructor clearly indicates time limits for all student activities.

		• Instructor prepares the room and relevant technology before the start of class.		
Learning Environment				
Classroom climate	• Instructor raises students' stress or anxiety by using discriminatory, dismissive, or other abusive language. • Instructor minimizes students' struggle with material. • Instructor discourages student input. • Instructor violates confidentiality by publicly revealing students with accommodations. • Instructor ignores disruptive student behaviors.	• Instructor consistently uses verbal and body language that is responsive to students' stress or anxiety. • Instructor encourages student participation. • Instructor treats all students equitably. • Instructor is responsive to students' different educational backgrounds and learning needs.	• Instructor has established classroom norms that foster a positive and inclusive environment. • Instructor encourages interaction between students.	• Instructor uses practices that increase students' motivation and foster a growth mindset.
Presentation form	• Instructor uses inappropriate or offensive gestures and/or speech. • Instructor displays a negative attitude in	• Instructor volume, pace, and diction allow observer to follow the class session. • Instructor faces students	• Instructor incorporates appropriate eye contact and effective non-verbal communication (e.g., hand gestures).	• Instructor is engaging, responsive, and constructive in both tone and content of their speech.

	tone and/or content.	when speaking.	• Instructor avoids distracting mannerisms or speech patterns, such as filler words and nervous habits.	
Presentation substance	• Instructor does not use, or uses inappropriate, visual support for presentation and/or examples/ illustrations.	• Instructor provides visual support for verbal presentation and uses concrete examples/ illustrations to clarify content.	• Instructor cites sources for content discussed.	• Instructor follows accessibility best practices by verbally describing and/or captioning any images used in presentation.
Instructional Content				
Knowledge of subject	• Instructor does not appear to understand course content.	• Instructor's factual statements are consistent with current knowledge in the field. • Instructor correctly answers questions about course-level content.	• Instructor answers questions confidently, clearly, and simply.	• Instructor ties current content to topics or knowledge from the profession and/or more advanced courses.
Discipline-specific language	• Instructor does not use, or incorrectly uses, discipline-specific and/or academic language.	• Instructor uses discipline-specific and academic language.	• Instructor explains use of discipline-specific terms.	• Instructor facilitates the use of discipline-specific language by students.
Contextual relevance and transferability	• Instructor teaches content devoid of real-world scenarios	• Instructor provides real-world applications of class session	• Instructor has students provide real-world examples of	• Where appropriate, instructor uses examples where their

	and/or examples. • Instructor assumes unrealistic skill level of students in the class.	content. • Instructor explicitly builds on prior student knowledge.	class content or apply content to real-world scenarios.	discipline converges with other disciplines in addressing challenges. • Where appropriate, instructor addresses "wicked problems" identified by USC on a local, national, or global level.
Student Engagement				
Appropriate content or level	• Class content is too easy or difficult for student knowledge level. • Instructor does not encourage higher-order thinking.	• Class content appropriately challenges students. • Class content promotes mastery of course learning objectives.	• Instructor engages students in higher-order thinking skills during class.	• The instructor spends the majority of class time leading students in higher-order thinking activities.
Active learning	• Instructor uses no active-learning exercises. • Instructor has unrealistic expectations for active-learning exercises. • Instructor uses inappropriate or offensive active-learning exercises. Instructor uses active-learning exercises that are not accessible to everyone in the class.	• Class session contains at least one active-learning exercise to apply course content. • Instructor monitors and manages active-learning exercises.	• Instructor uses active-learning exercises after no more than 30 consecutive minutes of lecture. • Instructor ensures that all students are on-task. • Instructor is responsive to student engagement and adjusts strategy accordingly. • Instructor facilitates student-led explanation	• Instructor uses active-learning exercises after no more than 15 consecutive minutes of lecture. • Instructor requires students to submit or present in-class work by end of class. • Where appropriate, instructor leverages student use of electronic technology to facilitate active learning.

			s and/or discussions.	
Formative assessment/feedback	• Instructor violates FERPA by publicly sharing student grades. • Instructor provides non-constructive and/or discouraging feedback. • Instructor compares student work to an ambiguous or unrealistic standard.	• Instructor provides students constructive and encouraging feedback on how to improve their comprehension or performance in class.	• Instructor provides information to students about their performance on class activities compared to a pre-established standard.	• Instructor leads students in structured reflection on class learning activities.