



Background Paper *Transforming the Education Workforce*

Primary Research on the Design of the Education Workforce in Ghana

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The Education Workforce Initiative (EWI) was established in response to a recommendation from the Education Commission's Learning Generation report to explore new ways of diversifying and strengthening the education workforce. The Transforming the Education Workforce report is one of EWI's key contributions to catalyzing this thinking. It draws on recent evidence and provides thought leadership on how to rethink the education workforce. For the full report and other supporting documents, please visit EducationWorkforce.org. The Transforming the Education Workforce report was informed by a set of commissioned background papers and primary research reports. This paper is a result of primary research undertaken in Ghana by Arizona State University and focuses on the design of the education workforce. For questions or more information about this paper, please contact: info@educationcommission.org Please reference this publication as: Yeukai Mlambo and Ann Nielsen with input from Iveta Silova (Arizona State University). 2019. "Primary Research on the Design of the Education Workforce in Ghana." Background Paper for Transforming the Education Workforce: Learning Teams for a Learning Generation. New York: Education Commission.

Education Workforce (Re)design: Primary Research Report of Findings

Ghana Fieldwork

Yeukai Mlambo¹ & Ann Nielsen² with input from Iveta Silova³

1. Introduction

In 2018-2019, Arizona State University, in collaboration with the Education Commission conducted fieldwork in Ghana. The purpose of the research was to explore the current education workforce that supports the district, cluster and school levels in Ghana to inform potential areas of refinement for improving the quality of education for all students in the 21st century. Using a grassroots approach that viewed the school as the main arena for teaching and learning, as the unit of analysis; the research focused on understanding the lived realities of the students, teachers and others in the education service at the school and district levels who we argue are best situated to have a detailed understanding of their contexts. The following objectives guided our work:

- **Understand the current roles of stakeholders** who make up the education ecosystem at the district, cluster and school levels and their effectiveness, as well as their use of time and
- **Engage in a participatory reimagining of the education workforce** at different levels of the education system informed by empirical research (primary and secondary data collection activities).

2. Methodology

In the month of November 2018, data collection occurred in Ghana (and Vietnam). The study utilized qualitative methodology within a social constructivist approach. Qualitative research is considered the most suitable when conducting research on previously un- or under-explored topics particularly in new contexts, as this study aimed to do. Furthermore, qualitative research is important when trying to arrive at new models to explain particular issues as it facilitates an understanding of the current context as a prerequisite to introduce new ways of knowing and doing (Jamshed, 2014). For this study, as an exploratory methodology, qualitative participatory research allowed for an understanding of the multiple ways in which different stakeholders experience and

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perceive the current education workforce while providing an opportunity to generate and explore new possibilities through dialogue.

The research team engaged with both the school and district levels to understand the comprehensive ecosystem at the local level which is engaged in education delivery to students. We used a combination of in-depth interviews, focus groups and workshops with school staff, teachers, parents and other stakeholders (including district officials) as well as photovoice with students and teachers. We involved participants using tablet personal computers (pcs) to take photographs of aspects of the everyday realities of their school life which were important to them. After a few days participants were re-engaged in guided discussion of their photographs in a group setting. This enabled us to gain a glimpse of student and teacher perspectives on school life, many of which are difficult to access through less participatory methods such as interviews. Although local researchers were involved for language purposes especially with younger participants, photovoice methodology was also extremely helpful in helping primary school students explain the aspects of their schooling that were important to them using their local language, but with pictures to prompt discussion.

Additionally, daily diaries were collected from teachers and school leaders where possible. Interviews with district level officials were also conducted to understand the social and policy factors which are influencing the work at school level (see figure for a breakdown of the research design employed). Finally, design workshops were conducted in each district where various stakeholders came together to engage in a one-day redesign workshop to reimagine what the future education workforce in their district could look like.

Figure I: Research Design

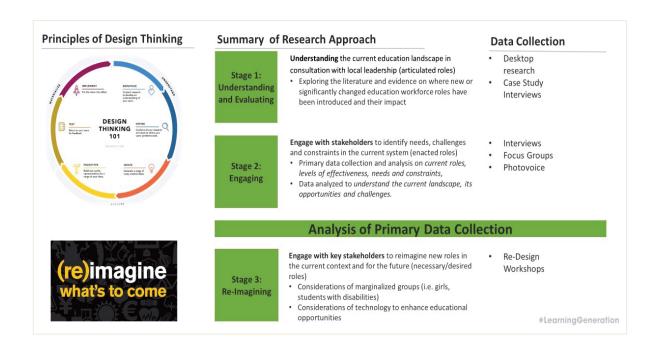


Table 1 shows a breakdown of the different methods used and with which stakeholders.

Method	Stakeholder Group(s)
Individual in-depth interviews	School leaders, teachers, school support staff, community members, district directors, district coordinators
Focus groups	PTA, SMC, circuit supervisors
Daily diaries	Teachers, school leaders
Photovoice	Teachers, students and sometimes school leaders

Note: As part of academic research requirements, all research was conducted with ethical approval from ASU and OU's institutional review board.

3. Sampling

Data collection was primarily conducted in two regions, namely Northern Region (now the newly established North East Region) as well as Greater Accra. Two districts were selected: East Mamprusi, Nalerigu in the North and Shai Osu Doku, Dodowa in the South. The selection of these two regions and districts was aimed at providing diverse representations of education delivery in Ghana with selection of the North aimed at ensuring rural representation in the study.

In each district, two schools (one primary school and one secondary school) were identified as research sites for a total of 2 district offices and 4 schools visited in Ghana. Selection of research sites was informed by review of national testing data, with consultation from education research experts based in Ghana (Mott McDonald) with final approval from the Ghana Education Service at the Ministry, Region and the District offices, respectively.

3.1. Framework for interpreting our results

Data analysis relied on a grounded theory approach which was centered on elevating the voices of various education stakeholders, their perceptions of their lived realities and their hopes for improving their educational experiences and spaces. Using images participants themselves captured throughout their daily interactions within school settings and their narrative descriptions of those images; analysis was guided by the overarching goals of: (1) understanding the current roles of educators within their respective contexts, (2) what stakeholders including students, teachers and other educators (school leadership, district officials, parents) value about education within their respective contexts as well as (3) what these stakeholders view as important for improving teaching and learning within their respective contexts.

4. Findings

This section presents key findings focused primarily at the school level. In presenting the findings we leverage the photovoice data collected from students and teachers to provide a comprehensive

visual of the lived realities of individuals engaging with the schools. It is important to note that the focus of the research was not to evaluate and fix the system. Instead, we approached the research with the aim of understanding the landscape, understanding what individuals within the system value as well as aiming to capture their ideas about how their lives and learning could be improved.

These findings should not be interpreted as a reflection of all of education in Ghana but simply as a snapshot of the landscape in the selected districts and at the research site schools. These findings as well as the process in which they were arrived at provide a starting point to understand education in Ghana more closely, but also highlight the value and importance of including all stakeholders in all education workforce reforms that may be proposed in the future.

4.1. Students in the setting: What do they value to support them in their learning?

Students from both the primary and secondary schools selected participated in the photovoice data collection activities. Six students from each school site (n=24) were provided with tablet pcs for between 1-3 days to document their daily lives while at school with a focus on capturing the aspects of their day within the school grounds that they valued and felt they were learning or that contributed to their learning. It is important to note that while teachers were able to take the tablets home, students were not allowed to take them home and so the photos primarily reflect their select experiences during the school day while at school. Selection of teachers and students to participate in photovoice as well as the rules of who could take a tablet home was guided by the schools and aimed to include diverse representation based on gender (male / female), age (older / younger), as well as participants from different backgrounds and languages where relevant.

4.1.1. Peer collaboration and peer teaching

Participants noted that they value peer collaboration and opportunities where they are able to learn from each other to better understand the lessons. Peer collaboration and teaching was primarily mentioned by secondary school students both in the North and the South.

"I just let one of my friends to take the picture of the science master... we were learning acid, base and salts. He was just explaining, we were not doing practical but that was the explanation and then you can see that everything was packed and even the blackboard everything, and even the master himself was there teaching. We were just exchanging answers. the students themselves were giving the contribution and the master was polishing them up for us to be able to understand...In fact, he [the teacher] was just a [facilitator] for us... yes it was interesting and the contribution of the students. Some of you will give example and the other will give example of his or her experience. So I think I learnt that students also give their experience, it will help me bring up those answers" (SHS Student)

"...if you don't know anything some of the teachers if they are teaching and they ask you question and you don't know, they normally say you are a 'zukpun 'and if I don't understand I will go to Student and say 'Student please what master thought us today I don't understand I want you to teach me", Student will allow me to understand it better than the master because anytime the master will enter he will be insulting me so I will not concentrate about

what he will be saying so anytime I will go to Ruth to teach me it makes education interesting." (SHS Student)

"And this one is **a student expressing his views to the members in the class**. The teacher that was supposed to come didn't come so he took that as a privilege to teach other colleagues who don't understand" (SHS Student, Photo 1).



Photo 1: SHS student teaching his peers when the teacher is absent

Photo 2: SHS Home Economics lesson in a classroom temporarily renovated for the lesson ab-



4.1.2. Specialist teachers who are enthusiastic about their subjects

Participants at both the basic and secondary schools noted how they value specialist teachers who are enthusiastic about their subjects. One secondary school student mentioned:

"That was our science master and his teaching was interesting, very understandable and even he was mentoring us towards the WASSCE and even the exams we are about to write **he was** teaching us and he is even free with us and take us as brothers and sisters. That's the reason why" (SHS Student)

"...a teacher in the home department. The reason why I took this picture is that if you have people like him as today so since in an institution like this in the home science they always you 'mona mona student' and you being... a boy in the home science is not easy and to enhance education, teaching and learning, a teacher, a boy. If you are a girl, they will call you a rice ball student and you a boy what will they now call you? But he has took it to himself to be a proud member of his department coming to help. You can even see that he's cutting the orange to do the juice. He has done very well and I am much happy with him because if we are having teachers that will be proud of what they are doing in their jobs in Ghana...teaching and learning will have been in a smooth and effective way" (SHS Student).

Photo 3: Female teacher engaging with students at a primary school.



"This is Madam, **she teaches RE. She teaches well and I always understand the lesson**. She explains clearly and she knows much about the topics." (Student, Basic school)

4.1.3. Practical lessons and learning trips out of school

Participants noted that they enjoy the opportunities to learn outside of the school grounds. Practical lessons that involved field trips to engage with the real world were especially valued. In one basic school many older students took photographs of an outing to a local restaurant, describing this as:

"...we were on a topic but we didn't have any idea about the topic so our teacher brought the idea that we should visit a restaurant so that we will know more about meal and menu planning. And when we got to the restaurant, we went to the kitchen and the owner of the restaurant allowed us to enter in to the kitchen, see how the place is neat, fresh vegetables they use to prepare the food....So that we learnt more about it." (Student, Basic School)

4.1.4. Access to quiet spaces for reading and study that may not be in the classroom Secondary students also noted that they value having quiet spaces to study and understand the content from their books and lessons.

"I want to say learning takes place anywhere you feel comfortable in the sense that you can be in the classroom and there will be noise and how... and due to that learning cannot be focused or go on where there is noise. When we come to the dormitory if there is peace or if there is no noise you can still learn and if you are going to the bush side and some people even get used to going there because there is comfortable and there is no noise so they normally go the bush and learn" (SHS Student)

4.1.5. Health and welfare related services at school (e.g., feeding programme, nurse at the SHS)

The value of the feeding programs occurring at the schools was noted as contributing to student learning. One student took a picture of day students who were waiting for food (Photo 5). Similarly students at basic schools were keen to talk about the feeding within their school and how this encouraged students to come to school.

"They eat only once a day so if someone is there and he doesn't have money to come to school, you al-



Photo 4: Students on a field trip to learn about meal preparation (extending the classroom space)

Photo 5: Students waiting to receive their meal for the day as part of the school feeding program at a basic school.



ways have it in your mind that **when you come to school and it is 12:40. You'll be served with food** (SHS student)

The **student nurs**e at the secondary school were also noted as a valued adult presence contributing to student health and their ability to learn.

4.2. Students in the setting: What would they would like to change or would like more of in their daily schooling?

Participants also noted aspects of their daily schooling experience that they would like to change or see more regularly.



Photo 6 Researchers showing the students and headmistress at the basic school how to use the tablets for photovoice

4.2.1. Peer collaboration and peer teaching opportunities

Peer teaching opportunities were noted as especially important to cultivate, especially as they help students understand the content better sometimes than their teachers.

"The reason why I took the video is that as he was demonstrating, even though my science teacher taught me acid, basis and salt and when we got to the type of indicators I didn't understand well but when I went in there to take a picture of my colleague students, he came and he came and take the solutions and litmus paper and everything and after and after his explanation I got everything and that thing I know is going to be in my head forever. So sometimes if they allow students like the teachers come and finish teaching he should let a proud member of the class the one who think who or she can explain should come to the front of the class and explain to the colleagues so that it will enhance effective learning. Some of us if a teacher teaches, you don't get everything but when your colleague explain to you, you get it much [more]. So the reason why I took it is that his students they

should help to teach the colleagues and see how teaching and learning will go on." (SHS Student)

4.2.2. More chances to make use of ICT for learning

Secondary students noted they would value more opportunities to make use of ICT for learning. They note how in the current system, electronics are banned from schools, therefore ICT is an under-utilized tool to support their learning.

"...so when we went to the ICT lab we learn how to type, how to write a letter inside or write an application or how to go to Google and visit for words from dictionary so that assuming that when they just give you an assignment and you don't know how to get the answers, **if you know how to use the computer and you just go straight you can get the answers for the assignment**. It is very important for learning" (SHS Student).

At the primary school level, students as well as teachers were equally excited about using tablets for the research as well as the potential for enhancing learning through such tools.

One head teacher at a primary school in the North requested for more opportunities for the teachers to get trained on using ICT as a tool which will help them to teach computer lessons.

4.2.3 Conditions within their schools: toilets, classrooms, staff rooms + eating areas

Participants at both the primary and secondary schools lamented the current conditions of their schools which impacted their learning. Teachers and other staff also noted similar concerns. One headteacher explained that

"My picture is about pupils outside the classroom trying to mend the dual desks; this is a situation where the school is lacking furniture... so this morning the people are looking for glue to mend the desks... these children were meant to be in class but they were outside doing a different thing. This will affect their learning process" (Teacher, Basic School)

Whilst another basic school teachers explained that her image (see photo 8) was taken to show that she was required to teach home economics outside because there were no classrooms.

Photo 7 Students at the basic school learning about computers





Photo 8: Basic school students being taught outside due to limited adequate classroom spaces for teaching (right)

"I took this picture because of the way students were lying on their bellies writing. This slows down learning activities and encourages copying...

"(Basic school teacher, see Photo 9)

Photo 10 Picture of school-based health care at SHS

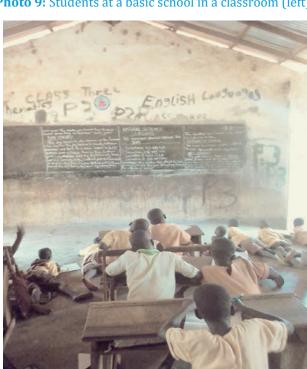
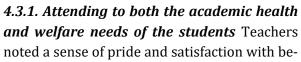


Photo 9: Students at a basic school in a classroom (left)

4.3. Head Teachers (Headmaster/mistress) and Teachers in the settings: What do they value?

Teachers participating in the photovoice activity also noted aspects of their work that they valued.





ing key figures in the students 'lives attending to their academic, health and welfare needs while at school. As teachers their mission was to provide holistic supports to train future leaders.

"This shows the schools 'mission of the school that is, to provide holistic future leaders today. I want you to see our mission and focus as teachers. Well we try though the resources are not enough, we do with what we have." (JHS Teacher)

One secondary school teacher noted their appreciation for having health services embedded in the school through the school nurses.

"I think is an examination room for our school clinic. I think that one is helping the students, you can't go every time we used to carry them to town. Since coming into effect, the presence of this hospital, clinic has minimized students moving to the major hospital for treatment so that's it. That's the exam room. Yeah I think health is very important and the welfare of students are catered for, their healthcare is taken care of. I think it's helping the school." (SHS Teacher)

4.3.2. Serving as a facilitator for peer-led learning

In the same way that students valued opportunities to lead teaching their peers, teachers also valued being able to serve as a facilitator of learning and watching their students take charge. The appreciation for a facilitator role was noted by secondary school teachers.

"They are **having group work**. They are seriously discussing. It's a good aspect of teacher work.

It's teaching them team work and team spirit so that was the reason why I took this picture. To show team work at this level will help them." (SHS Teacher)

"Two students learning on their own. The teacher is not in the class so they are doing their own study and most at times that is what they do when a teacher is not there they come to do their own study which also helps them a lot." (SHS Teacher)

Photo 11: School administration building. Teachers value school level leadership

4.3.3. School leadership as driving education activities at the school

Teachers also valued the presence of school leadership especially when their voice was heard.

"Okay this is the administration block of the school. **That is the engine of the school.** Without proper administrative of the school the school cannot go on" (SHS Teacher).

4.3.4. Continuing to deliver specialist content despite the conditions of work

Despite the less than ideal conditions of work, teachers took pride in striving to deliver content and to make the limited resources they have at their disposal work for teaching students.

"Yesterday, I entered the Home Economics Block to observe practical. **Even though what they** are using are improvised materials and resources, she still has time to deliver the needed know how to the children. I'm so very proud of her, so I took the picture." (SHS Teacher)

4.3.5. Updated infrastructure around ICT teaching

For teachers who had been at the school for a duration of time, they noted how they valued the changes taking place around ICT teaching in the school. For secondary school teachers the presence of ICT labs was something to be proud of. For Junior High School (JHS) teachers the ability to bring inn their laptop as a way to teach students was something they were proud of.

"So our ICT lab. Those days when we were students here. But today there is a modern one that



Photo 12 Picture of IST lab at SHS

can accommodate one hundred and twenty (120) students at a go. Because of that, I am computer handicapped but my juniors here are computer literate, because of the opportunity. We used to draw computer on the board but today they are practicing it which I'm proud of. (SHS Teacher)

"This one I think we were having ICT. So when they saw me with the laptop, I sent one of them to bring me the laptop. So now when they see different thing, they become so happy. So you will see some of them are up, just to have a feel of the computer." (JHS Teacher)

4.3.6. Practical learning experiences for students

Teachers valued the opportunity to take students on field trips and provide practical learning experiences. Practical learning also extended to needing laboratories to ensure students learning science would grasp both the theory as well as the applied nature of the content.

"Okay, this is a picture of the Form 3 students, we were actually on a fieldtrip to the town. So that's on our way going to the town. Yes, to enhance my teaching. We actually have a lesson on menu and meal planning, and the only place we can get a real menu is in the restaurant so I decided to take them out to a restaurant...I was still talking to some of them on how to comport themselves since we were still in class...that was [now] our classroom." (Basic School teacher)

Subject specialist teachers at the secondary level noted needing adequate spaces especially for teaching science subjects.

"The situation currently is that, we don't have a practical room. So when it's time for practical, they convert, they use the classroom. You see that the tables are... yeah these are dining tables. Because there is no practical room there are no provisions for all that. So during practical, no teaching. For one or two weeks they will use for the practical, no teaching in that classroom (SHS Teacher)

Yes, the physics lab is also being converted in a classroom like the biology lab. And, we can't carry any practical out, because as at now we don't have a science lab. And the most interesting thing is that the science lab is being used as a resource centre for ... almost all the Basic Schools around the town...They come here for us to take them through practical. And now being converted has an enormous effect on academic performance within the jurisdiction... Which has an effect on our sciences now. We were the best in the whole...region but today we cannot talk of that." (SHS Teacher)

4.3.7. Providing student feedback

Teachers at the primary school level valued the moments where they could provide feedback to the students. They noted that feedback is important for student learning.

"Okay, I need to give them feedback on the assignments they have written to see their strengths and their weaknesses. If I'm able to finish marking before I go to my next class I have to discuss it with them, where they've gone wrong, and encourage those who are lagging behind. So I need to mark before I go to the next class." (Basic School Teacher) In addition teachers noted how they valued the support they received from national service volunteers:

"We have a large class with fifty/ fifty eight. One person taking care of all of them at times is a challenge ... but when there are two in the class with the help of the service personnel, so when the teacher is doing the teaching the service personnel will also be going round to help." (Basic school teacher).

In addition, teachers also valued the good relationships they have with the community and the support they received from district circuit supervisors around pedagogy. For those in the South, there was an appreciation for being posted in peri-urban areas versus the rural areas.

4.4. Educators in the settings: where they would like to see development moving forward

While teachers had aspects of their jobs that they valued, they still noted a few changes they would like to see that could help them deliver quality education.

4.4.1. Development of the conception of the role of the teacher/educator

Teachers once again noted the value of moving towards 'facilitator 'rather than source of knowledge. There was recognition of the value of student peer learning and the need to offer more opportunities for this to take place. Additionally, they noted needing more teaching assistants to support the teacher with individual students as current class sizes were difficult to manage with one teacher. There was a huge emphasis on 'welfare 'as being important but also as a core part of teacher / educator identity and community relationships.

"Then I have these students at the Clothing and Textiles lab doing their practical's so one of them is showcasing what she has sown, a dress that she has sown to me. Yes it is displayed so when we want to have an exhibition in the school, we display all of them. This is a section of the Clothing and Textiles department doing their sowing. Some are chatting, some are only looking on. They are not doing anything. Then we are still at the Home and Economics lab, a student who is very perfect cutting the clothes so one is just looking on it learning from the student. So the student becomes the TA for the teacher here. At the Home Economics, we have the food and nutrition and the Clothing." (SHS Teacher)

4.4.2. Extending the role of the educator beyond academics

Teachers wanted an acknowledgement of the additional roles they play in serving students beyond just academics. Examples of additional roles included attending to behavioral health, prosocial behavior of students.

4.4.3. Personalization of curriculum

In order to meet the needs of diverse students in the same learning space, educators noted their desire to see curriculum and instruction become more personalized so it is challenging for all students. Changes to the curriculum would also need to ensure that teaching and learning does not follow a rote learning model as is currently the case.

4.4.4. Enhance their capacity for providing an inclusive learning environment

Teachers recognized that existing staff do not have skills, confidence and experience to implement full inclusion (particularly for CWD/ special learning needs). They noted the need for 'resource teachers '(specialists) who can support teachers with strategies and approaches to ensure all children can participate in learning. In addition, greater emphasis on local languages was seen to be positive. While integration of students with special needs into mainstream schools was welcomed, teachers noted that they do not have the skills nor the materials to adequately serve these students as this discussion in a basic school reveals:

Teacher 1: "I took this picture of a boy, he is the hyperactive type, while we are reading, he is drawing, he always wants to draw and not able to follow what we do in the class **so if we get a special teacher who is able to help him develop his interest, it will help." (Teacher, Basic School)**

INTERVIEWER: Does anybody help you with what activities to give him?

Teacher 1: The special teacher we have help the people who cannot read or write, he doesn't have the knowledge to handle that specific specialty.

Teacher 2: And the materials too are not there. The materials for the special kids.

Existing staff were few and overburdened and so more specialist staff were requested. [Interviewer: Do you have any student in your classes that uses clutches?]

We used to have someone but he has graduated. There is a teacher from the D.A. school that used to come over but she is a special needs teacher. She is the only one handling the whole cluster so she is overburdened. (Basic School teacher 1)

We do, in primary 5. Oh as for him, it's learning disability. Whenever they teach, he is not able to absorb. It's difficult to help because you are alone and you can't leave the rest and help that one person; when you leave them, they will make noise. When you give them work, you need to supervise them. We should get special teachers for them so while you attend to the others, the special teacher attends to the rest... if we get a special teacher who is able to help him develop his interest, it will help. (Basic School Teacher 2)

4.4.5. Continued recognition of gender issues

Teachers acknowledged that much progress had occurred for girls (attending school, taking part in different subjects etc.) but there remained a need to work with communities to ensure gender equity. In particular, the suggestion was to move from a distinct focus on 'girls 'to focus on 'gender 'more broadly. Furthermore, it was noted that it is important to recognize the intersectionality of disadvantage (SES, gender, disability etc.)

4.4.6 Greater harnessing of digital technologies:

There was a strong belief among participants that technology will play a key role in teaching and learning in the future, but few educators have experience using technology for learning.

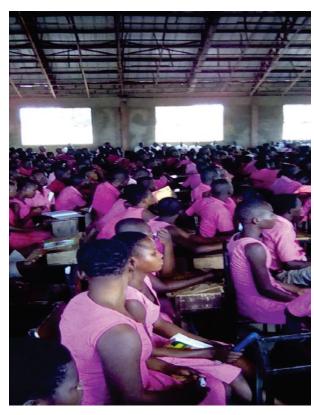
"I wish I had facilities such as computer and projectors so for example I would show them a video on the body parts of human beings and how they function. I think this will improve teaching and learning. When the students see [the video] it will help them understand the concept better" (Basic School teacher.)

In addition, both teachers and students raised ideas about how mobile devices, for example, might be harnessed for learning (beyond use for 'research 'etc.). However, as technology becomes important for learning, some points about use of technology will require 'rules of use' especially at the school level, but broadly in terms of use of technology for data management, planning at the school and district levels etc. For example, at the school level, policies about use of technology would need to change for secondary schools. Teachers would need to be trained

on how to leverage technology for learning and even parents would need to be educated on the role of technology for learning.

"Yes. Maybe after school you prepare, you type all your lessons for the following day then during the time in class, you project." (Basic School Teacher)

Photo 13: SHS students in a lesson with over 70 students at a time



4.4.7 Improve conditions of work

As part of workforce needs, in all schools and in all districts participants noted the importance of ensuring the conditions of work were adequate for teaching and learning. There was also a desire to see nutrition and health become more integrated into shaping education policies and delivery. Overcrowded classrooms were particularly important to note as they have implications for staffing needs as well as limiting the teacher's capacity to attend to the learning needs of all the students.

"Yeah it affects teaching and learning because, you know as a teacher, you can't manage all seventy people at a go. If it is thirty-five, you can manage or vou can observe those confrontation and those losing concentration at any time. But they are seventy, so it can't **be done** like somebody is over there and is asleep. But it might not be your fault but because of the numbers. And because you shout, small time you get exhausted. So that is one." (SHS Teacher)

"Yeah we have large class size. Some of the classes they are about 50 plus, some are even 60 something. Yeah, because if they all are to have a PC, like as I demonstrate I will move through, then I will pause for them to demonstrate, if they have any challenge I go around and help them to fix it but now that the PCs are not there I have teach, put them in groups and call them to come and practice. If I don't do that too, they may not have the concepts in them." (Basic School Teacher)

5. Concluding Remarks and Implications for Policy

Fieldwork in Ghana revealed that education stakeholders (including but not limited to teachers, students, school staff and district officials) take pride in their engagement with teaching and learning activities. However, there remain areas and opportunities for improvement that directly impact education workforce reform. In redesigning the education workforce to achieve the goals established in the education sector plan policy makers need to consider the following:

- Involving education stakeholders in designing the education workforce for the future:
 Teachers, staff and students as the main implementers and beneficiaries of education in
 Ghana have the necessary experience to understand their contexts as well as their needs.
 Engaging with these stakeholders in planning for the education workforce that addressed
 current challenges and leveraging the opportunities for the future is imperative for success
 of any workforce reforms.
- Attending to conditions of work is also important for attracting and retaining a qualified education workforce and ensuring students receive quality education:

Conditions of work include but are not limited to classroom spaces and well as sizes and the assistance that would be needed to manage and effectively teach large classes. For science subjects, availability of labs and other spaces for practical learning will ensure students are adequately prepared both in theory and practice.

- Extending the roles of the educator to include health and welfare of the student:
 - Currently teachers are providing support for students that go beyond academics. While teachers take pride in their ability to provide additional services they also acknowledge that additional (and specialized) assistance would be welcomed particularly around gender, CWD and other identities that may be underrepresented in education service delivery.
- Incorporate technology as a tool for education delivery:

Teachers as well as students at both the primary and secondary school levels noted the potential value of technology as a tool to enhance learning. However, teachers do not feel adequately trained to both teach and incorporate technology in their teaching. Furthermore, current policies do not allow for students (especially those in secondary boarding schools) to use technology while at school. As technology becomes important for learning, policies governing the use of technology will need to be modified to meet the changing landscape of learning.

~ End of Report Narrative ~

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