



T-TEL

Transforming Teacher Education and Learning

LONGITUDINAL STUDY



Ministry of Education
REPUBLIC OF GHANA



T-TEL Longitudinal Study

Draft Report

Executive Summary

This longitudinal study was conducted from October 2016 – January 2017 at five case study colleges and explored the experiences and actions of key college actors in order to understand the behaviour change that is needed to produce Beginning Teachers who can demonstrate four key pedagogical practices that improve teaching and learning, particularly for girls. The following sections summarise key findings and recommendations regarding the CoE actors who participated in this research.

College Leaders: The clear theme that cut across all five case studies related to tensions that have resulted from the broad assumption that because CoEs are considered ‘tertiary’ they should thus have the same entry requirements, staff and infrastructure standards, and financial/curriculum/assessment autonomy as other tertiary institutions, such as universities. Such an assumption does not acknowledge the different culture, context and realities of CoEs as compared to universities, and this has unfortunately led to a tension between what people (both in and outside of colleges) think a CoE *should* do versus what it actually *can* do. This theory and reality divide can be seen most starkly when CoE leaders attempt to implement somewhat unrealistic NCTE and NAB policies that are underpinned by the assumption that CoEs should be meeting tertiary norms (of which many are not yet able to do). In addition to this, systems that are outside of CoE control (such as payroll and funding) have been in the process of transitioning from GES to NCTE, and slow/not yet complete transitions have also constrained what CoEs actually can do.

College Tutors: The majority of tutors valued student-centred pedagogy as it is generally understood to be the most effective method to enhance student understanding/engagement; and the overall level of student-centred pedagogy has increased within CoEs within the last year due to the addition of 1-2 student-centred activities within broader lectures. That said, the deeply embedded and pervasive exam culture within Ghana has had a significant effect on what tutors teach in class and more importantly, *how* they teach it. Given the high-stakes exam culture, tutors’ valuing of student-centred pedagogy is often challenged by their valuing of producing good exam scores, which many tutors believe is not aligned. Unfortunately, good exam scores can be produced with thorough rote memorisation of content, and many tutors believed that lecturing was an efficient and effective way to review and drill for exams.

Teaching Practice Mentors: The majority of mentors also valued student-centred pedagogy, however, their primary demonstration of this was through the use of Q&A and/or use of found objects, interspersed within a broader teacher-centred, lecturing methodology. That said, mentors did think it was important for mentees to practice student-centred methods during teaching practice; however, given the number of contextual challenges that are apparent in basic schools, it is highly likely that beginning teachers will find it challenging to demonstrate the four key practices once deployed.

Student Teachers: Even though student teachers did think student-centred pedagogy should be used in basic schools, and did value it themselves as learners, the course content and exam system in CoEs did not encourage learning for understanding or practicing of student-centred pedagogy. Thus, Year 1 and 2 Student teachers only understood student-centred pedagogy through memorising and regurgitating content rather than through practicing it themselves. Another significant factor that affects how and to what extent student teachers will use student-centred pedagogy in basic schools, is whether they will actually *remain* teaching in basic schools beyond 2-3 years. In asking both Year 1 and 2 students whether they plan to continue teaching in basic schools after deployment, a resounding majority said they would likely leave in order to pursue further studies.

Recommendations

- 1. Review and nuance NCTE/NAB standards and policies:** As discussed, due to a discourse and assumption that CoEs *should* conduct themselves like universities now that they are tertiary institutions, it seems that university standards have been applied to CoEs in an unnuanced blanket fashion. It would be helpful if NCTE/NAB standards acknowledged the capacity, resource and cultural shifts that are required for CoEs to become more like universities; and that they

either created different types or tiers of tertiary institutions, or provided a scaffolded set of realistic standards (with appropriate timeframes) that acknowledged CoE realities. T-TEL has supported NAB to further develop standards for CoEs, but these would also benefit from more nuance; otherwise, CoEs will be playing 'catch up' with infrastructure/HR standards that at times have not been appropriate or relevant.

2. Certification for tutors who implement PDS methods: As long as the high-stakes exam culture persists, accompanied by tutors' perceptions that lecturing is the most efficient and effective way to produce exam passes, it will remain difficult to prompt meaningful and sustained pedagogical change in colleges. T-TEL PDS has prompted a certain degree of change in the short-term, however engagement and sustained implementation of new student-centred methods could be improved. Findings from previous research with PDCs showed how certification would provide Tutors with valuable evidence that they have satisfactorily completed PDS (this sentiment was also confirmed during this longitudinal study). T-TEL could set up a system whereby tutors are asked to put together a portfolio at the end of each semester to demonstrate the following:

- Verification of attendance of the entire PD session, for at least 80% of the sessions
- Verification of positive contribution/participation during PD sessions
- 4-5 completed activity plans with self-assessment/reflections after implementation
- 3 short case studies regarding the application of 3 different strategies in class (tutors would write an analysis of why the strategy worked/didn't work, what affect it had on students, and what new ideas/adaptations they would recommend).
- 1 TLA evaluation/lesson observation
- Student evidence (via survey, testimonial, etc.)

These examples need to be developed further, and fortunately T-TEL's Component 1 has already begun this process.

3. Replacing exams with portfolio assessments for students: As discussed, high-stakes exams have also shaped tutor pedagogy a great deal in that 'teaching to the exam' is perceived to be best done via lecturing. However, if students were no longer assessed via exams (and by extension, tutors were no longer judged by the exam scores they produce), the use of lecturing may subside. Instead, student assessments should reinforce the use and demonstration of the four key practices, which could be done by a portfolio of evidence (such as the one discussed above). This is something that has already been identified by the DBE curriculum review/reform team (Component 5) and it is hoped that the findings from this study demonstrate the negative effects that exams have on teaching and learning.

4. Training on gender responsive pedagogy: As discussed, although most tutors have a concern for gender equality in their classrooms, their understanding of gender responsive pedagogy and what it entails is quite shallow. There is much more to GRP than giving females and males the same opportunities to answer/ask questions; and given the concern that tutors have for their female students, it would seem ideal to introduce them to the nuance of GRP. In addition to this, any GRP training would involve a sensitisation to sexual harassment and findings from this study would show that there is clearly a need for this.

5. Supporting/training mentors to demonstrate the four practices during teaching practice. The content of T-TEL's Teaching Practice Handbooks attempts to do this, however, there is no explicit training or coaching to support the handbooks as there has been with T-TEL PDS. Additional training/coaching at basic schools in the vein of PDS is beyond T-TEL's budget and remit; however, it is worth being mindful of this gap as it will affect the degree to which mentors will significantly change their practice/behaviour and ensure demonstration the four practices.

6. DBE curriculum revision to include gender responsive pedagogy and classroom management strategies: Like tutors, students have a fairly shallow understanding of gender responsive pedagogy and it is imperative to introduce them to the nuance of GRP. In addition to this, there are other gaps in the DBE curriculum that should be addressed in the review/reform process, such as classroom management strategies and alignment of CoE lesson plans with those used by GES in basic schools.

Introduction

This report outlines findings from a longitudinal qualitative study commissioned by the National Council for Tertiary Education (NCTE), the National Teaching Council (NTC) and the College of Education Principals' Conference (PRINCOF), jointly implemented by the Transforming Teacher Education and Learning (T-TEL) Programme. T-TEL is a four-year Government of Ghana Programme, supported by the UK Department for International Development (DFID), that aims to transform the delivery of pre-service Teacher Education in Ghana through support to all 40 public Colleges of Education (CoE).

This study was conducted from October 2016 – January 2017 at five case study CoEs and explored the perceptions, experiences and actions of key college actors (leaders, tutors, student teachers and teaching practice mentors/mentees) in order to understand the process of behaviour change that is needed to produce highly competent Beginning Teachers¹. More specifically, T-TEL's overall aim or programme goal² is to support CoEs to produce Beginning Teachers who can demonstrate four key pedagogical practices that improve teaching and learning in schools, particularly for girls. These key practices have been drawn from international research evidence and entail Beginning Teachers demonstrating:

1. Interactive student focused instructional methods (Outcome Indicator 1)
2. Core competencies in the Pre-Tertiary Teacher Professional Development Management Policy (Outcome Indicator 2)
3. Knowledge and application of basic school curriculum and assessment (Outcome Indicator 3)
4. Gender sensitive and learner centred instructional strategies (Outcome Indicator 4)

Prior to T-TEL intervention, baseline scores gauging Beginning Teachers' demonstration of these practices were low (the highest percentage of teachers' demonstration was 3.7%)³; thus, this study sought to answer the following research questions:

1. What are the enablers/constraints on CoE actors with regard to changing their practices and behaviour in order to produce better teachers?
2. How and to what extent have T-TEL activities affected change in CoE actors' practice and behaviour?
3. How and to what extent will these changes affect Beginning Teachers' ability to demonstrate the four key practices in schools?

These questions were answered through collecting data via focus groups, interviews and questionnaires with college leaders, tutors and Year 1&2 Student Teachers. In-depth semi-structured interviews were also conducted with Lead Mentors, Mentors and Year 3 Mentees at associated Teaching Practice schools. In addition to these research methods, informal lesson observations and discussions were used to further triangulate data and deepen analyses. The respondents were drawn from five case study colleges that provided an indicative representation of the nation's public CoEs based on geography, principal's gender, gender profile of the students, and management history of the college (mission vs. government). These criteria and the overall case study approach allowed for robust cross-case comparisons, which facilitated the delineation of themes and issues that were common across all contexts and/or were specific to a particular college.

The findings from these analyses are presented in this report in five main chapters:

- Background on the transition to tertiary
- Key Findings from College Leaders
- Key Findings from College Tutors
- Key Findings from Teaching Practice Mentors and Year 3 Mentees
- Key Findings from Year 1 and 2 Student Teachers

The report will conclude with recommendations for colleges, their institutional partners and the T-TEL programme itself; and annexes will include detailed information about the research design, interview schedules that provide background on respondents and focus group and interview guides.

¹ The term Beginning Teacher will be used to indicate teachers who have graduated and been qualified for 1-2 years

² as articulated in T-TEL's programme Logframe and Theory of Change

³ See T-TEL Baseline study, 2015

Background on the transition to tertiary

Before elaborating on the research findings, it is helpful to situate these data within the wider events that have led to the current climate within CoEs.

Following a comprehensive review of the education system in 2004, the Government of Ghana published a white paper on education reform, particularly at the secondary and tertiary level. This white paper set a target to staff all schools with professionally trained teachers by 2015, thus creating the need to raise the image of teaching and attract competent people into the profession. To meet such aims, the paper (GoG 2004: 11) stated that the following actions should be taken:

1. A teaching and licensing co-ordinating body, the National Teaching Council, will be established.
2. All Teacher Training Colleges will be upgraded into diploma-awarding institutions, which will be affiliated to the education-oriented universities.
3. Modular and competency-based training courses and distance education courses will be organized for non-professional teachers to enable them qualify as professional teachers.
4. Continuous teacher development will be undertaken to upgrade and update the competences and skills of serving teachers to enable them offer quality teaching and learning in our schools.
5. Remedial programmes will be provided for teachers without the minimum requirements to enter teacher-training colleges.
6. Special attention will be given to the training of teachers for technical, agricultural, Vocational and special education, and in French.
7. Conditions of service will be improved to make the teaching profession attractive and to inspire confidence and efficiency.
8. Special training will be given to teachers who opt for Guidance and Counselling programmes
9. Incentives will be offered to encourage teachers to transfer from the urban centres to rural areas.

At the time of this white paper, Teacher Training Colleges (TTCs) were considered post-secondary institutions and awarded a three-year Post-Secondary Certificate 'A' to its graduates. TTCs were institutionally housed within the Teacher Education Division (TED) in the Ghana Education Service (GES); which meant that funding, appointment of staff and the determination of admission requirements were all the responsibilities of GES. In addition to this, TED and the University of Cape Coast's Institute of Education were responsible for the development of TTC curricula, course outlines and exams (in collaboration with the National Board for Professional and Technical Examinations (NABPTEx)).

In 2007, the National Accreditation Board (NAB) conducted assessments of all the 38 government TTCs' capacities to become tertiary-level Colleges of Education⁴ and published its *Report on the assessment of teacher training colleges in Ghana conducted between May and June 2007*, which was quite critical of TTC infrastructure (such as science labs and libraries) as well as the qualifications of teaching/non-teaching staff (Newman, 2013). This critical report however, did not prevent TTCs from awarding Diplomas in Basic Education (DBE) the following year in 2008⁵, or the National Council for Tertiary Education (NCTE) from conducting its own assessments of TTC infrastructure and staff in 2010. Subsequently in 2012, the Government of Ghana passed the Colleges of Education Act 847, which gave the re-designation of TTCs to CoEs legal backing and officially placed CoEs within the institutional remit of the NCTE.

Although the upgrading of TTCs to CoEs has been occurring for some time, the transition has not been straightforward or smooth; thus, in 2014 the Government of Ghana, with support from DFID, launched the Transforming Teacher Education and Learning (T-TEL) programme, which aimed to support this transition in order to meet the government's white paper goal of producing better prepared, professionally-trained teachers.

These activities have set the backdrop for this study, which aimed to unpack the experiences, perceptions and actions of CoE actors, and to understand how these interface with the broader policies and institutions they are accountable to. The following sections will unpack the formal and informal factors that enable and constrain the behaviour change needed to produce better teachers, the extent to which T-TEL activities have influenced this change, and how and to what extent such change will affect Beginning Teachers' ability to demonstrate the four key pedagogical practices in schools.

⁴Two more institutions became government CoEs in 2017

⁵ It should be noted that in addition to the DBE Diploma, there is also a 4-year university Degree programme (for secondary school graduates with 'A' levels); and 2-year post-diploma Degree programme for practicing teachers wanting to upgrade their Diploma to a Degree.

Key findings from College Leaders

In the transition to becoming tertiary institutions, CoEs have created a small number of new leadership positions in addition to those that had previously existed. College leadership currently consists of (but is not limited to) the following key actors/positions:

1. Principal
2. Vice Principal
3. CoE Secretary
4. Finance Officer
5. Quality Assurance Officer
6. Academic Board member
7. Governing Council member

In focus groups, interviews and questionnaires, the above college leaders were asked about their views on their transition to tertiary, their experience with NAB/NCTE standards and policies, tutor and student performance, and the challenges involved in producing strong Beginning Teachers, amongst other topics. In analysing the data across the five case study colleges, there were clear themes that cut across all contexts, and these themes predominantly related to tensions that have resulted from the broad assumption that because CoEs are considered 'tertiary', they should thus have the same entry requirements, staff/infrastructure standards and financial/curriculum/assessment autonomy as other tertiary institutions, such as universities. Such an assumption does not acknowledge the different culture, context and realities of CoEs as compared to universities, and this has unfortunately led to a tension between what people (both in and outside of colleges) think a CoE *should* do versus what it actually *can* do.

This theory and reality divide can be seen most starkly when CoE leaders attempt to implement unrealistic NCTE and NAB policies that are underpinned by the assumption that CoEs should be meeting tertiary norms (of which many are not yet able to do). In addition to this, systems that are outside of CoE control (such as payroll and funding) have been in the process of transitioning from GES to NCTE, and slow/not yet complete transitions have also constrained what CoEs actually can do. The following sections outline salient themes and examples of where tertiary 'theory' does not meet CoE 'reality'. We have termed these themes, 'Transition Tensions', and elaborate on these in each section.

Transition tension #1: CoE staffing has until recently remained under GES purview, which has prevented CoEs from meeting NAB tertiary staffing standards

The Ministry of Education, including GES, has been under a hiring freeze for several years, and up until January 2017 CoE staff were still under the remit of GES. Tutors and staff who were already on GES payroll continued to receive a salary, however, due to the GES/MoE hiring freeze, GES would not create any new payroll spaces. This has left CoEs unable to hire all of the non-teaching staff that are part of NAB HR standards (such as college secretaries, librarians, labourers, lab technicians, etc.). Thus, some CoEs have taken on National Service volunteers to work as unqualified librarians, and others have hired labourers out of their internally generated funds (IGF). But by and large, most CoEs leave these roles unfilled, meaning that they are not able to meet NAB tertiary institutional standards.

However, most college leaders saw the hiring of teaching staff as being a necessity, thus many CoEs continued to hire tutors and leaders despite the freeze. That said, the inability to add people to GES payroll meant that new tutors and leaders did not receive a salary (there was an instance where a Principal did not get paid for 1.5 years). This lack of salary prompted the need for many new staff to engage in second jobs (or 'galamsay' in Twi), which meant that they were able to have an income, but not able to fully focus on their CoE work.

In addition to tensions caused by NAB staffing standards, T-TEL staff expectations have also caused tension. For example, many tutors have been assigned additional roles as Professional Development Coordinators (PDC), T-TEL activity coordinators or members of policy development committees. In most cases, often the most able and committed tutors are given these roles, but this does not preclude some from feeling over-stretched, particularly when T-TEL activities occur one after the other. And for those CoEs that have intersecting donor programmes (such as TESSA and Sabre Trust), the insufficient number of staff is felt even more acutely.

Transition tension #2: CoE funding for improvements is low and slow, which has prevented CoEs from meeting NAB tertiary infrastructure standards

CoEs and universities traditionally receive funding from the Ghana Education Trust (GET) Fund; however, the time frame and process for receiving these funds is long and arduous. Payment is also often in arrears, making large projects difficult to implement. Thus, infrastructure standards set by NAB (such as science labs) are particularly difficult to meet. Some college leaders spoke about using Internally Generated Funds (IGF) to pay for infrastructure projects, however these IGFs were relatively limited as they came mostly from student fees, uniforms and the rental of CoE facilities for sandwich courses. That said, some leaders spoke of more creative IGF ideas, such as turning the ICT lab into an internet café, soap making, farming or renting out facilities for weddings. However, these sources of income were not reliable as many faced implementation issues (such as lack of broadband infrastructure, fires on the farm and unruly wedding guests).

At a more micro level, insufficient funds within CoEs has also meant that there are inadequate TLMs for tutors, and a lack of food or refreshment at T-TEL professional development (PDS) sessions. This was discussed at length amongst tutors (in the next section) and has created a great deal of resentment and lack of morale.

Transition tension #3: Tertiary qualification standards for staff have been applied to CoEs, which has caused a great deal of anxiety amongst tutors who fear being demoted and having salaries reduced

Upon the ratification of Act 847 in 2012, CoE teaching and non-teaching staff were transitioned from the GES to NCTE staffing policy. The latter required teaching staff to have a second degree (such as a master's degree) that was aligned with their first degree or bachelor's degree, in order to be eligible for the 'single spine' pay scale for tertiary institutions. This requirement came as a lesson learnt for NCTE when polytechnics transitioned to tertiary status in 1993. Polytechnic tutors were told that they were required to have a second degree to be eligible for the single spine pay scale, and as such, many tutors quickly acquired a 1-yr MBA that was not at all aligned to their teaching subject, but was the fastest route to achieving a second degree. This meant that a majority of second degrees did not necessarily benefit tutors' teaching - just their incomes. Such an occurrence prompted NCTE to create and enforce the current CoE policy that requires tutors to have aligned degrees, otherwise, they will only be considered 'assistant tutors' and/or cannot be hired for tutor positions.

What has occurred in CoEs as a result of this policy is what is often referred to as the 'Skirt & Blouse' issue (a misalignment of first and second degrees). This has caused tutors a great deal of anxiety and attrition, as many seasoned tutors who already had master's degrees in related but not explicitly aligned fields were being demoted to assistant tutor (with fear of a reduction in salary). The alignment issue has also caused problems in hiring new staff (as many applicants suffer from the skirt and blouse misalignment), and dismay amongst staff who see that university lecturers are not subject to the same unforgiving policy⁶.

Despite the fact that this policy does not stem from a university norm, promotion criteria is – tutors are required to publish research articles in order to get promoted. Although the number of research publications needed for tutors is lower than that of university lecturers, many tutors do not feel that they are financially or technically equipped to meet these criteria. When asking tutors if they know how to write or publish an article (and where), a majority said 'no'. Despite the helplessness that many tutors feel, there are some tutors who have strategically completed MPHils (often as a 'second' second degree), with a view to focusing on research and publication. There is a clearly a spectrum of how and to what extent tutors are able to meet NCTE's qualification policy – however, across all five contexts, it was very clear that the skirt & blouse issue caused a major tension.

Overall, when asking college leaders (via follow-up questionnaire) if they believed NAB tertiary standards in general were too complex and difficult to achieve, a majority of leaders at 3 out of the 5 CoEs agreed (see Figure 1 for data on this). However, when asked if they agreed with the statement 'I don't believe that NAB standards will enhance student performance', a resounding majority at all 5 CoEs disagreed (see Figure 2 for data). This demonstrates the 'theory vs. reality' tension that many leaders in colleges face, in that in theory they do value and believe that NAB standards such as improved infrastructure and increased staffing would indeed help students, meeting these standards amongst broader hiring freezes and unreliable funding is extremely difficult.

⁶Apparently, tutors are able to make an appeal to NCTE about the relevance of their second degree if misaligned; however, this appeal process is not widely advertised and no tutors that we spoke to were aware of this

Figure 1 - Questionnaire Statement: 'The NAB standards are too complex and difficult to achieve'

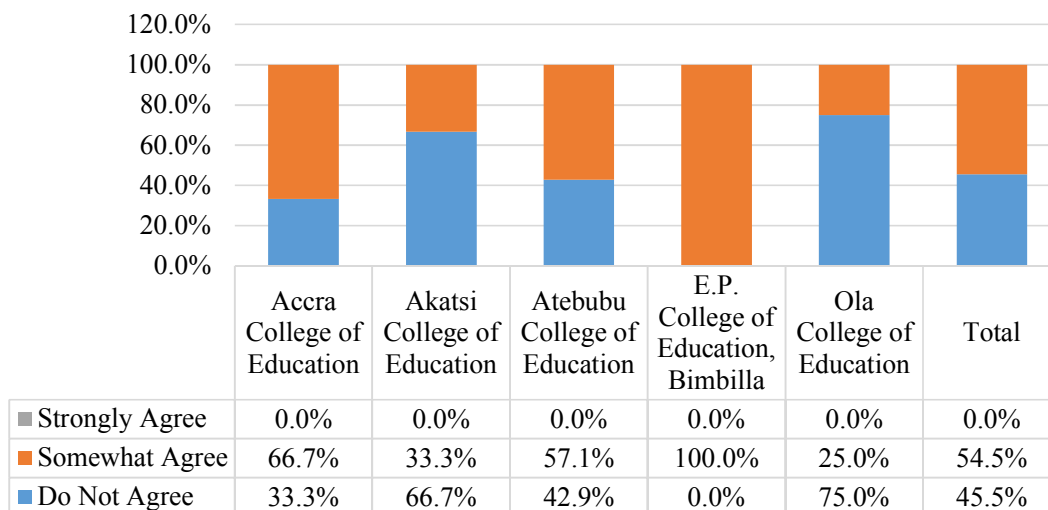
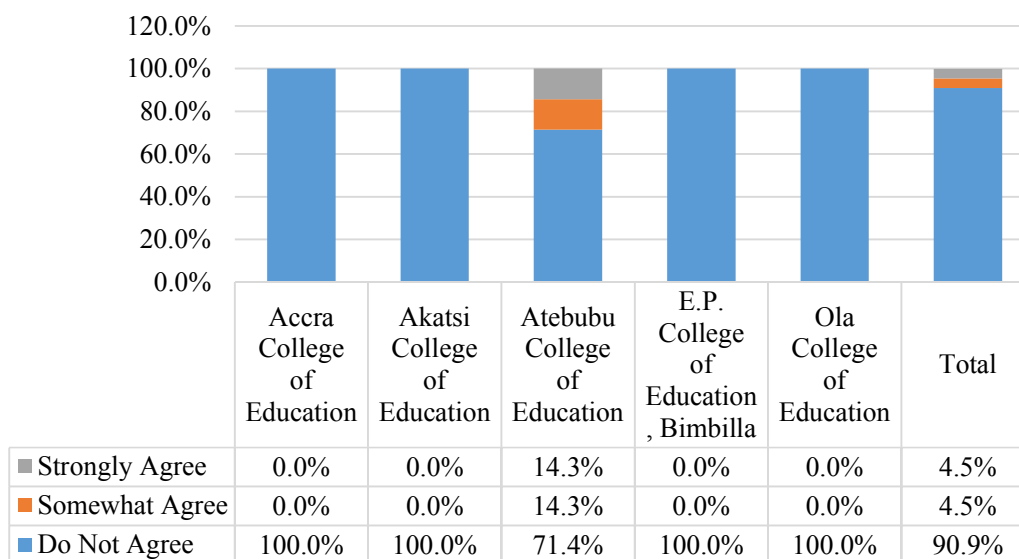


Figure 2 - Questionnaire Statement: 'I don't think NAB standards will enhance student performance'



Transition tension #4: The overall culture and mindset within CoEs is caught between that of a Teacher Training College and a university

As a result of the tacit assumption that CoEs should emulate the norms established by universities, many CoEs are experiencing a slight 'identity crisis' in that many still abide by the social rules and expectations of their old identity of a TTC, and find it difficult to fully embrace the culture and mindset of a tertiary institution (which is implicitly that of a university). This entails everything from less consequential norms (such as wearing uniforms) to more salient activities that can affect learning (such as the use of large 'lectures'). It is clear that there is a spectrum of where CoEs lie in their transitional identities and cultures, however, it is worth noting how TTC and university norms can both facilitate and constrain students' learning.

For example, in the past, Teacher *Training* Colleges had a strict 'training' mindset which went beyond the professional teacher training that students received, to include what one principal termed as 'life' training; which includes manual labour such as cleaning, scrubbing and weeding. Currently, many CoEs still require 1st and 2nd year students to do this manual labour not only

because leaders believe it is good life training for students, but also because most CoEs cannot afford to hire labourers to do the cleaning and weeding anyway. What is problematic is that these 'workforce' activities have a significant affect on student learning - many students complained of being tired and sleeping in class due to having to wake up at 4.30/5am to start chores and continue cleaning after class.

Another legacy of TTC rules and norms is the way in which students are disciplined and/or punished. Several Year 1 and 2 students noted that some tutors still punish students through giving them extra weeding or cleaning chores; and although corporal punishment is not very common, other forms of physical punishments are given out (such as doing laps around campus). Such actions point to a culture in which control over students is deemed imperative (many leaders feared that students would be 'out of control' otherwise), which is a mindset often found in primary and secondary levels of education (as opposed to tertiary). This 'control' can be seen in other CoE rules and norms, such as requiring exit passes to leave campus, having curfews, requiring uniforms, and monitoring students so that they do evening study. Clearly, there was a spectrum in the stringency with which CoEs applied these rules, with some being quite strict and others being much more lenient. And at this latter end of the spectrum, we saw CoEs that were attempting to embrace tertiary/university culture by eliminating student workforce duties, reducing monitoring activities and moving towards lecture-style classes and timetabling. The latter of which caused the most tensions and challenges to learning.

In one case study college, individual classes were often combined so that 80+ students would attend a 'lecture' in the same vein as a university. Such a large class often led to tutors using a lecture style pedagogy, which is at odds with the T-TEL Professional Development training that encourages tutors to use student-centred pedagogy in order to enhance learning and model best practice. Some tutors did attempt to increase activity within these large lectures by grouping students and having them do presentations on relevant topics. Although tutors believed that such presentations ticked the 'activity' and 'group work' boxes (however, quite superficially), what often occurred was that during presentations students would simply stand in front of the class and lecture as their tutors did. Such an occurrence demonstrates the effect of a CoE attempting to embrace the norms and culture of a university, but in doing so, constraining and learning that would benefit student teachers most.

Transition tension #5: CoEs are located within a pervasive exam culture that results in practices and behaviours that are in tension with T-TEL aims and broader learning goals

This transition tension is less about CoEs moving towards tertiary practices that might not yet be appropriate (although most universities are indeed embedded within Ghana's prevalent exam culture). Rather, this tension results from CoE tutors who experience T-TEL professional development activities that emphasise the modelling of the four key practices discussed earlier⁷, yet who believe that these practices will not produce the exam scores that they are pressured to deliver.

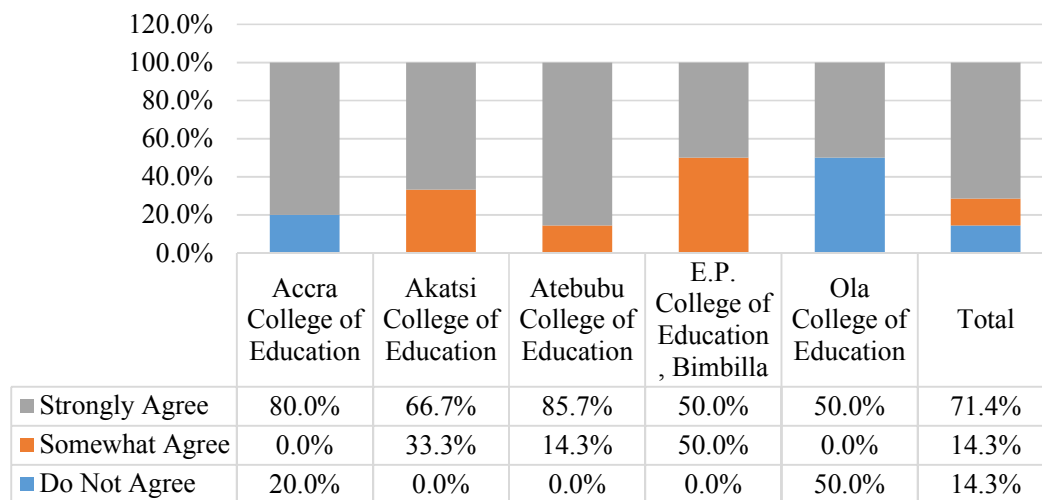
There is an implicit assumption within CoEs (and the wider Ghanaian education system) that a good exam score reflects a high level of learning by a student. This is not necessarily the case, as CoE exams are generally structured to test content retention as opposed to analysis, synthesis or demonstration of key pedagogical practices. Given the nature of CoE exams, the pedagogy that tutors thus default to is 'teaching to the test' (via lecturing), as most believe that this is the easiest and most effective way to cover content and drill for memorisation. Many tutors will also only cover content that they know will be on the exam, thereby glossing over or leaving out non-exam content that may be in the syllabus. These types of pedagogies are reinforced further when tutors are publicly shamed (by principals or colleagues) for not producing an adequate number of passes on exams. And as discussed, these pedagogies are not aligned with the four key practices that tutors are encouraged to use via T-TEL professional development, as they do not enhance student understanding and instead reinforce a form of rote teaching that students often emulate when they become teachers.

Students' behaviour is also shaped by this exam culture, as they tend to only pay attention to topics 'that will be on the exam' (a sentiment voiced by several students across context). Like tutors, many students also believe that lecturing is the best way to prepare for exams, thereby creating what many tutors perceive to be a demand by students for this type of pedagogy. That said, many students also voiced that it is possible to do well on an exam without really understanding the content, as many just 'chew and pour' (memorise and regurgitate content) and then forget whatever it was that they committed to short-term memory.

Many CoE leaders are aware of the tension between teaching for exams vs. teaching for understanding, as evidenced by the following data in Figure 3 which indicates the percentages of leaders that agreed/disagreed to statements about exams in questionnaires.

⁷ student-focused instructional methods; core competencies from PTTDPMP; application of the basic school curriculum; and gender responsive pedagogy

Figure 2 - Questionnaire Statement: 'There is too much exam pressure so learning is limited to what is on the exam'



Clearly, many leaders thought that the salient exam culture that CoEs are located within has affected the type and degree of learning that takes place in CoEs; however, many leaders did not do much about it and would instead become party to the exam culture by pressuring tutors and students to produce high exam scores in order to make the college look good to others.

Other key findings: Tensions regarding gender

It was clear that many principals were aware of the need to have gender balance both amongst their staff and students, but there was certainly a variance in the prioritisation of this and how to achieve it. Some principals felt that their hands were tied by NCTE rules regarding aligned first and second degrees (many bemoaned that female candidates were thus not eligible), and often prioritised the 'most qualified' candidates (often men) over seeking to achieve gender balance through affirmative action practices. Some principals in rural areas often blamed 'the harsh environment' on the lack of female applicants for both staff and students.

Given these tensions, other principals were able to circumnavigate barriers – one hired a woman knowing that she'd get her second degree whilst teaching at the college, and thus hired her under the proviso that she meet the required qualification during the course of her employment. Another principal was very explicit about the need for gender balance amongst staff and told the interview panel that a woman must fill the post, irrespective if a man gets the highest scores from the panel.

Similar actions also applied to female students, whereby principals who prioritised gender balance offered remedial classes to female students who may not have met NCTE entry requirements for certain subject areas. Such principals clearly had an understanding of why affirmative action was necessary and were confident enough to implement it; however, on the whole, most principals (and staff) interpreted affirmative action as 'preferential treatment' and thus would shy away from it as it appeared to be unfair and unjust, particularly to men. This signals a very shallow and cursory understanding of the inequalities that lead to women having less impressive qualifications or grades, as compared to their male counterparts.

In summary

Overall, it seems that university standards and criteria have been applied to CoEs in what seems to be a blanket fashion, and many CoE leaders are trapped within a complex tension between NCTE and NAB policies (that are underpinned by the assumption that CoEs *should* conduct themselves like universities) and the reality of implementing these policies. Leaders are trying to exercise agency within the constraints of insufficient human and financial resource, and it seems that only those principals with the confidence and creativity to circumnavigate constraints are able to do things like hire staff amongst a hiring freeze and complete projects without readily available funds.

It would be helpful if NCTE/NAB standards acknowledged the monumental capacity, resource and cultural shifts that are required for CoEs to become like universities; and that they either create different types or tiers of tertiary institutions, or provide a scaffolded set of realistic standards that acknowledge CoE realities. T-TEL has supported NAB to further develop

standards for CoEs, but these would also benefit from more nuance; otherwise, CoEs will be playing 'catch up' with infrastructure/HR standards that at times do not seem appropriate or relevant.

Key findings from Tutors

Before delving into the findings from tutors, it is worth revisiting the aims that tutors are meant to contribute to with regard to the government of Ghana's goal of producing better prepared, professionally-trained teachers. As discussed previously, the achievement of these aims can be indicated through Beginning Teachers who demonstrate four key practices that improve teaching and learning in schools. These include:

1. Interactive student focused instructional methods
2. Core competencies in the Pre-Tertiary Teacher Professional Development Management Policy
3. Knowledge and application of basic school curriculum and assessment
4. Gender sensitive instructional strategies

With these practices in mind, our research with tutors aimed to investigate the extent to which tutors:

- valued these practices
- taught and assessed these practices in class (via course content and exams)
- modelled these practices themselves whilst teaching

In unpacking these findings, we were mindful of noting both the enablers and constraints on tutors in these areas.

With regard to value sets, the majority of tutors did value student-centred pedagogy as it is generally understood to be the most effective method to enhance student understanding/engagement. That said, there was also a wide spectrum of interpretations of 'student-centred', which entailed everything from the notion of attending to each individual student one-by-one, to including at least one activity that would *not* be considered lecturing (such as Q&A). Regardless of interpretation, the deeply-embedded and pervasive exam culture within Ghana had a significant effect on what tutors taught in class and *how* they taught it. Given the high-stakes exam culture, tutors' valuing of student-centred pedagogy was often challenged by their valuing of producing good exam scores, which many tutors believed were not necessarily aligned or compatible. As discussed, good exam scores can be produced with thorough memorisation and without substantive understanding or engagement.

For example, a T-TEL Teaching and Learning Adviser (TLA) noted how he had watched a tutor in a methodology class give a lecture about six activity based methods that constituted student-centred pedagogy in the classroom. The tutor did not demonstrate any of the methods, nor did he have students try any of the methods themselves. The reason for this is because CoE exams do not require student teachers to demonstrate learned methodologies; rather, exams only require students to recall facts about the methods (via multiple choice or written answers). When content retention is the only thing being assessed (rather than demonstration), tutors default to lecturing as the best method for relaying and drilling content. This, and a number of other factors (elaborated below), contributed to the lecturing pedagogy that tutors were often observed to using and modelling in class.

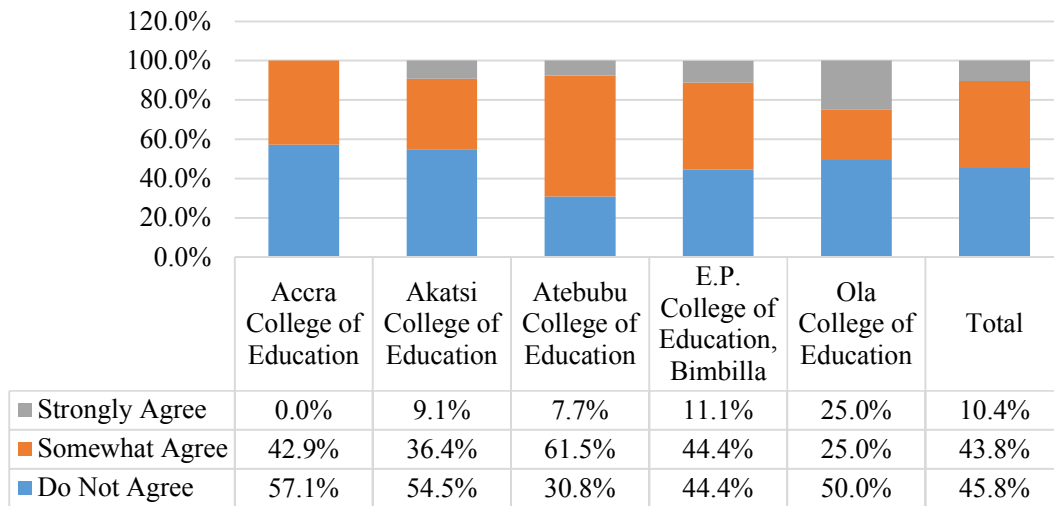
Barriers to student-centred methods / Enablers of lecturing

1. **Belief that lecturing is the most efficient method for producing exam passes:** there is a resounding belief amongst tutors across context that lecturing is the most effective way to produce exam passes. As discussed, since exams only require students to 'chew and pour' (memorise and regurgitate) content, many tutors believed that lecturing was the best way to introduce, explain and review content. This again is not to say that tutors do not value or think that student-centred methods are effective, but many perceived these methods to be time-consuming (both in planning and execution) and not necessarily worth the effort. In other words, if lecturing can produce the same or better exam results, but is easier to use, then lecturing is the method that tutors will default to.

That said, many tutors did feel a tension between the practicality of lecturing and the broader discourse and pressure to use student-centred methods (often via T-TEL) and would try to find compromises, such as putting students into groups to explore a specific topic and present to class. The concept of 'group work' was often promoted during T-TEL professional development sessions (PDS) and thus tutors perceived presentations to be a student-centred activity that

mitigated their level of lecturing (and possible associated guilt). This is reflected in the following figure 3, which demonstrates how tutors admitted (and often felt justified) in the amount of lecturing they did, but also felt that they were able to incorporate student-centred activities within these broader lectures, such as presentations. Unfortunately, the common pedagogy used by students during these presentations was often a reproduction of the lecturing methods used by their tutors.

Figure 3 - Questionnaire statement: 'I mostly use the lecture method in class' (tutor questionnaire response):

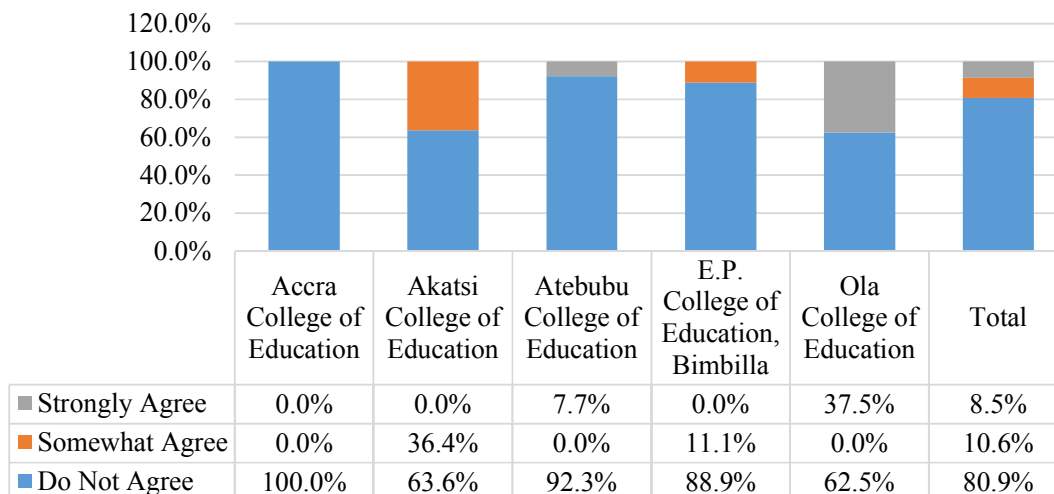


- Beliefs about methods introduced by T-TEL:** When asking tutors what they thought about the student-centred methods introduced during T-TEL PDS, some tutors commented that ‘these are methods we already know.’ After reviewing a set of methodology lecture notes used by a tutor who made this comment, it was clear that yes, he was probably very familiar with the activity-based methods that were listed in the notes, but after observing his class it was also clear that he did not *use* or *model* them in any way. For this tutor, knowledge of student-centred methods was purely on a level of content recall and not on a level of practice or implementation (much like his students).

This preoccupation with content recall has also skewed how tutors make sense of the content within T-TEL PDS handbooks. Some tutors commented that T-TEL content is ‘not aligned with the curriculum or the course outline’, which demonstrates a misunderstanding that T-TEL content is *what* should be taught in class, as opposed to *how* existing course content should be taught in class. Such a misperception has led some tutors to be dismissive of T-TEL methods, as they believe they are not relevant to or aligned with facilitating student passes in methodology exams.

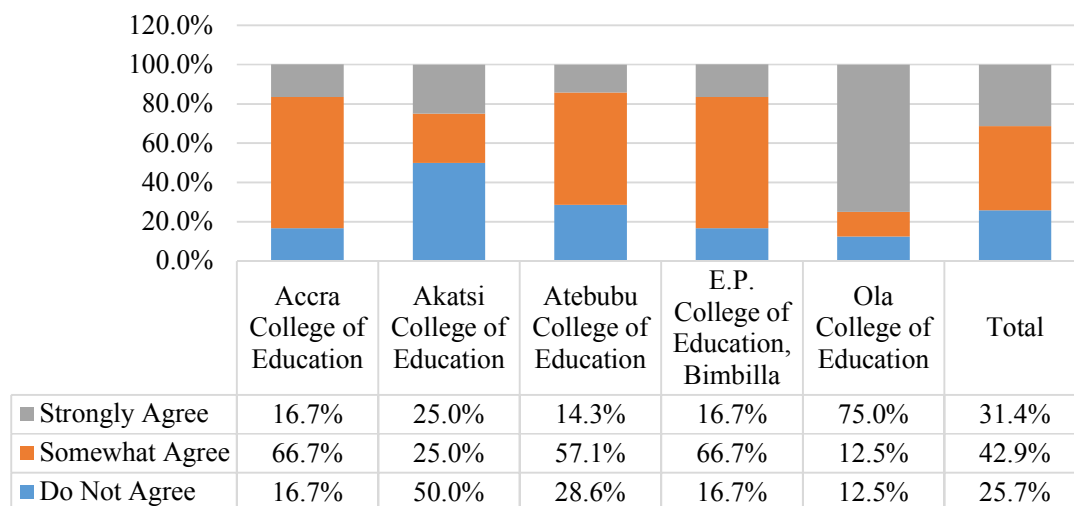
That said, for the exception of these cases, a majority of tutors across context did indeed think that T-TEL strategies were helpful, as evidenced by their responses to the following questionnaire statement.

Figure 4 – Questionnaire statement: 'I don't think the strategies in PDS are very helpful or effective'



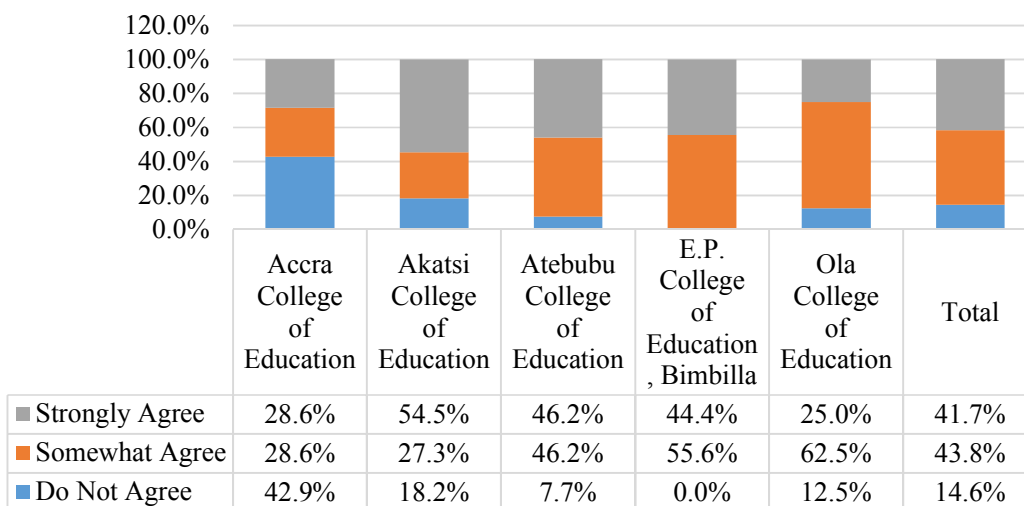
Clearly, tutors liked and appreciated the T-TEL student-centred strategies in theory; however, in the reality of their practice, many Year 2 students in this study thought that tutors still defaulted to using teacher-centred lecturing methods (as showing in the following figure 5).

Figure 5 – Questionnaire statement: ‘My CoE tutors generally use the lecture method’ (Year 2 students)



- 3. Large class sizes:** As discussed previously, in an attempt to move towards a university-like culture, some CoEs combined classes to form lectures of 80+ students. Having lectures meant that by implication, the pedagogy should be that of a lecture, and often times the large class sizes made it very difficult to do otherwise (particularly some of the games and methods introduced in PDS). Again, group presentations were often used in these instances in order to provide some form of student activity/engagement and often tick the student-centred box of using ‘group work’.
- 4. Inadequate Teaching and Learning Materials (TLM):** Tutors often discussed the lack of funds available to allow them to acquire lab materials, use power points/ICT or even just print handouts for class. Thus, the TLMs most commonly used in class were photocopied booklets of lecture notes that students bought at the beginning of the semester (often prepared by the tutor and used in lieu of a textbook), which covered content that was likely to be found on exams. These lecture notes provided the content that tutors/students used for rote memorisation, and they often precluded the use of supplementary library books (a NAB standard that CoEs were expected to meet) because the content of library books would not necessarily be found on the exam.
- 5. Time involved in implementing student-centred methods:** Many tutors believed that implementing new student centred methods requires significant amounts of time during class to set up and then try out. Many tutors across context stated that they couldn’t/didn’t want to take time during class to implement new methods (introduced during T-TEL PDS) as this would impinge on their ability to adequately cover the course outline. Although there is a variance in the amount of time it takes implement different student-centred methods, there was clearly an assumption that they *all* take too much time.
- 6. Time involved in planning student-centred methods:** For other tutors, the implication of taking extra time out of their personal lives to plan new methods was not something they had the commitment or motivation to do. The following figure 6 demonstrates tutors’ agreement with the notion that student-centred methods in general take too much time to prepare.

Figure 6 - Questionnaire statement: 'Student-centred pedagogy takes too much time to prepare'



To provide an example of the amount of time (and cost) involved in planning a student-centred class, one tutor showed an 8-page handwritten handout containing 30 questions for group work to be done in her science class. This document took her 8 hours of work during her holiday to write; and in addition to this, the tutor then had to photocopy the handout for the groups (5 groups per class x 6 classes at 80 peswa a page, totalled 24 cedis). Granted, for this tutor the time and money it took to plan group work was worth it because: 1) it reduced her talk time by 2 hours for all of her classes; 2) she is a very committed tutor and prioritises student understanding/engagement over her personal time. This tutor also discussed a variety of quick student-centred games that she draws on during class because they are easy/fast to implement and enhance student engagement/understanding. Clearly, this demonstrates that there are tutors who are creative, committed and motivated to use student-centred methods; however, these were often in the minority.

This observation points to a number of assumptions that T-TEL (and education projects in general) make about tutor willingness to change their practice/behaviour and to start using new methods introduced during training. These assumptions are that tutors:

- 1) Have and are willing to give up personal time and money to plan/implement new methods
- 2) Are creative enough to apply new methods to their subject or class (tutors are more willing to try something if there is an example that is readily applicable – if there isn't, it requires creativity and lateral thinking in order to apply a new method to their context. There is a spectrum of this competency amongst tutors.)
- 3) Are concerned about learning beyond what is instrumental for exams – as discussed, learning for passing an exam is satisfactory for many tutors; however, learning for deep understanding and engagement requires more time, creativity and a concern for students

Taken together, the above assumptions profile a tutor that is committed, prioritises their students, sees their job as a craft and, as a result, very much values the content and experience of T-TEL PDS. If all tutors fit this profile, change in their practice and behaviour would be fairly straightforward. However, this is not generally not the reality. The following figure 7 provides a profile of the types of tutors that can typically be found within a staff of 40 at a CoE.

Figure 7 – General profile of the teaching staff within a CoE

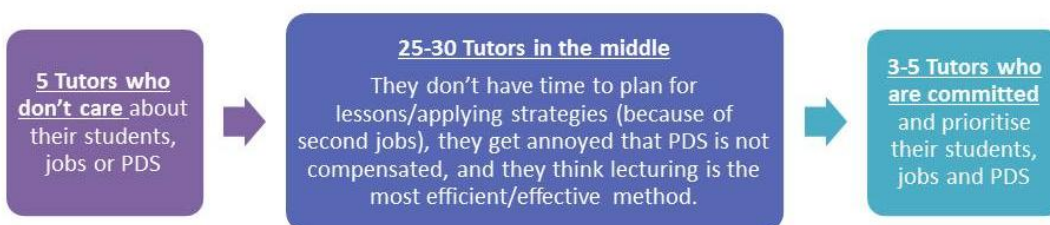


Figure 7 attempts to illustrate the spectrum of attitude/commitment that can be found amongst a community of tutors within a CoE. At the positive end, there are always a handful of tutors who meet the assumptions discussed earlier – they are tutors who see teaching as a vocation, gain a great deal of satisfaction from it, and who prioritise their students and jobs - often times over

their personal lives. Most T-TEL professional development coordinators (PDCs) are drawn from this group, as they are the most active at their CoEs and have clearly excelled in their work, as observed by their peers and managers. At the other end of the spectrum is the handful of tutors that represent the antithesis of those just described. These are tutors who likely entered teaching as a third or fourth choice of career, who find teaching a chore, who are cynical towards development programmes, and in some cases, who are close to retirement and not willing to invest in professional development.

Within these two extremes lie the majority of the teaching staff at a CoE – they enjoy teaching to a certain degree, but are often juggling work with the demands of taking care of their families (which prompts many tutors to engage in second jobs to supplement their incomes - referred to 'galamsay' in Twi). This means that the goal of facilitating meaningful student learning jostles for position within a tutor's priority list, and is often deprioritised when pit against personal and family needs. This deprioritisation underpins some of the findings discussed above, particularly those surrounding not having time to plan/implement new teaching methods (as many tutors prioritise their personal lives and/or time for second jobs), and defaulting to the lecturing methodology that they believe is most efficient/effective in producing exam results (if lecturing is easier and faster than using student-centred methods, why bother putting in more effort?). That said, this is not the case with *all* tutors within this majority or 'middle group', as there is again a spectrum, with some more committed than others.

In a study on teacher engagement in in-service training, Han and Wiess (2005) identify a number of school, individual and programme level factors that can enable or constrain the level to which a tutor will change their practice/behaviour due to training. Many align with the findings from this study and are elaborated upon further below.

School/individual-level factors that affect tutor engagement in PDS:

1. **Support from Principals:** Han and Weiss (2005: 35) state that, "Knowledgeable and supportive school leadership can be instrumental in making a programme a priority within the school, as reflected in the time, resources, incentives, and training allocated for the programme as well as the expectation of accountability." With T-TEL PDS, it was clear that there were certain actions taken by principals that helped to improve tutor engagement, such as: i) providing an explicit/consistent endorsement of PDS and why it is important; ii) attending sessions (either the principal or vice) and actively participating; iii) offering to tie PDS to promotion or letters of recommendation; iv) providing food/water/TLMs/logistics; v) providing moral support to the PDC; vi) providing sanctions or an explicit protocol for absence. Although these actions did not guarantee consistent attendance, they did signal to tutors that PDS was valuable, important and endorsed by the institution.
2. **Tutor self-efficacy and intrinsic motivation:** This will influence the extent to which a tutor will engage/accept a programme and the amount of time they will invest in it. The example of the tutor who spent 8 hours and 24 cedis of her own money to facilitate group work in her science class provides an example of self-efficacy and intrinsic motivation. It is thus not surprising that she was also very active in PDS and often tried out new methods in her class.
3. **Tutor professional burn-out:** This includes indifferent/negative attitudes toward students, a low sense of accomplishment in the job, and indifferent/negative attitudes toward the broader system or institution. These characteristics were embodied by those tutors at the opposite end of the spectrum in figure 7; and it should be noted that these tutors' disillusionment with the tertiary system/institutions were further exacerbated by the skirt and blouse tensions discussed earlier.
4. **Tutor's perceptions of the training:** This refers to what tutors think about the relevance and effectiveness of a training programme, as this significantly influences their interest and willingness to implement or change their practice. As discussed, some tutors believed PDS was not aligned with exams (and thus found it less relevant), which indicates that they did not understand that PDS methods regarded *how* to teach as opposed to *what* to teach. In addition to this, because PDS focused primarily on maths, science and English, a number of tutors also questioned its relevance if they did not teach those subjects.

Programme-specific factors that affect tutor engagement in PDS:

Given the above factors that can constrain a tutor's engagement in in-service training, Han and Wiess (2005) also discuss several factors that can address some of these constraints.

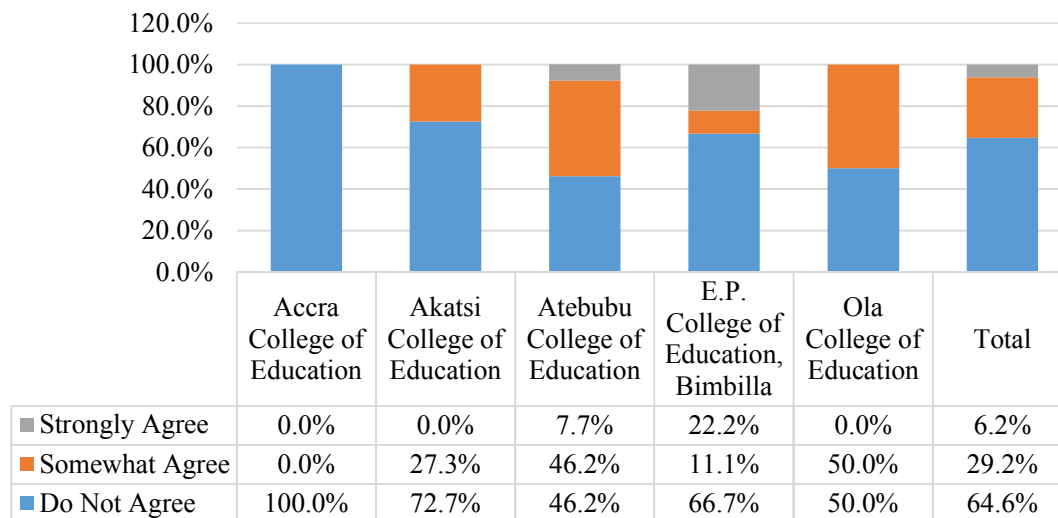
1. **Programme relevance/effectiveness:** This concerns whether the programme aligned with teachers' perceptions and beliefs. As discussed, there were some misperceptions regarding PDS, but this can be addressed through seeding key messages in handbooks, such as:
 - i. How students might not be examined on the methods in PDS; rather, these methods are tools that tutors can use to deliver course/exam content in an engaging and effective way

- ii. Some strategies may be familiar, but PDS is a way to remind and reinforce the idea that tutors should also be applying these strategies
 - iii. Positive examples of how Tutors have applied strategies in class and for other subjects
2. **Amount and quality of training:** This regards who is facilitating the programme, whether there are adequate materials, and whether the timing/consistency of training is appropriate. The quality of facilitation by PDCs did vary, however, given the fact that most were drawn from the pool of very dedicated tutors at each CoE, quality of delivery generally remained high. That said, frequency of PDS has been an issue and many tutors felt that weekly sessions were too much, and instead suggested reducing sessions to once every two weeks (whilst possibly increasing the length of the sessions). This would also take some pressure off the PDCs who do find it an arduous task to prepare for the sessions every week.
 3. **Performance feedback:** This regards monitoring and feedback from an external coach, which Han and Weiss (2005) posit is a necessary component for changing teachers' classroom behaviours. Tutors did often speak highly of their TLAs and generally found their coaching visits useful; however, there were also stories relayed about how tutors would change their teaching plan (if told a TLA would be observing) by simply repeating a student-centred lesson they had already given.
 4. **Terms and conditions of training:** This regards the opportunity cost of attending and implementing methods from PDS, which as discussed, often took time out of supplementary income generation and personal time. Some tutors have been frustrated that there have been no seating allowances to make up for this opportunity cost; and others have discussed the concept of certification as a longer-term proposition that would enhance tutors' prospects for promotion. It was clarified that certificates did not have to be endorsed by GES or NCTE (of course, it would not hurt if they were), rather, certificates would act purely as a form of evidence to show that a tutor had completed the PDS that was indicated on their CV.

Other key findings: Tutors' views on gender responsive pedagogy

It was clear that tutors had a broad valuing of equality, and thus intuitively equated gender responsive pedagogy (GRP) with providing females and males equal opportunities to ask/answer questions or participate in activities. This is very positive, however there was rarely any nuance or elaboration on other forms of GRP beyond providing equal opportunities to answer questions. This would indicate that tutors have a somewhat shallow understanding of the term, and have not had any explicit training on it. This is made clear in Figure 8, which illustrates tutors' response on the amount of time it takes to prepare for gender responsive pedagogy. If tutors had received comprehensive training on how to implement GRP, they would realise that planning must be done both regarding the content and delivery of a class, that gender analyses need to be done with regard to TLMs, and that GRP involves challenging traditional gender roles in exercises and activities, amongst others. However, given tutors' understanding that GRP simply involves asking equal numbers of questions to females and males, they do not think it takes any time at all to prepare for or implement.

Figure 8 - Questionnaire statement: 'Gender responsive pedagogy takes too much time to prepare'



During informal observations of classes, it was clear that many tutors' intuitive understanding of GRP was not necessarily put into practice, as many discussions and Q&A sessions were dominated by males. What was more worrying was observing a male tutor using actions and language of an extremely sexual nature with a class of female students whilst trying to give an example of a concept he was teaching. This was indeed a very disturbing observation to make, and when questioned afterwards it was clear that the tutor did not realise that his actions could be construed as sexual, inappropriate or as harassment. Instead, he viewed himself as a young guy who is popular with his students and that they like it when he jokes with them in class. When asked if he thought such flirtatious behaviour could prompt female students to feel uncomfortable or pursue him as an object of affection, he seemed as if he had never thought about it, but did indeed agree. This unfortunately, was not the only case in which sexual harassment by tutors was apparent, and it is hoped that T-TEL's future sexual harassment study (scheduled for Jan 2018) will provide further insights into the typology and frequency of sexual harassment within CoEs.

In summary

Although the findings surrounding tutors does not paint an overwhelmingly positive picture regarding the types of pedagogies that tutors are modelling in CoEs (and the degree to which T-TEL is able to change them), it should be noted that the overall level of student-centred pedagogy has indeed increased within CoEs within the last year (as per students' views, which will be discussed in a following section). This has manifested itself in an increase of student-centred activities within broader lectures, which have predominantly entailed student presentations, group work and Q&A discussions. This is positive, and students have certainly responded and appreciated the shift; however, as long as the high-stakes exam culture persists, accompanied by the majority of 'middle' tutors' perceptions that lecturing is the most efficient and effective way to help their students pass exams, it will remain difficult to prompt meaningful and sustained pedagogical change in colleges.

Key findings from Mentors

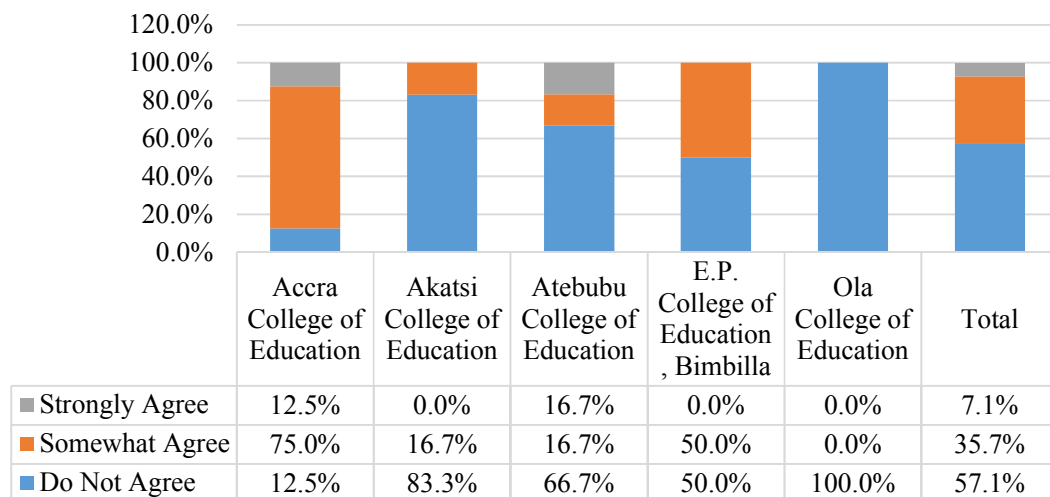
As discussed at the beginning of the previous section, it is worth revisiting the aims that CoE actors, particularly mentors, should contribute to with regard to the government's goal of producing better prepared, professionally-trained teachers. It is understood that the achievement of these aims can be indicated through Beginning Teachers who demonstrate four key practices that improve teaching and learning in schools, which include using interactive student focused instructional methods, demonstrating core competencies in the Pre-Tertiary Teacher Professional Development Management Policy, having knowledge of the basic school curriculum and its assessment, and demonstration of gender sensitive instructional strategies. With these practices in mind, our research with mentors aimed to investigate the extent to which they valued these four key practices, taught and assessed these practices during teaching practice, and modelled these practices themselves whilst teaching. We also conducted interviews with Year 3 mentees to triangulate answers and deepen analyses.

With regard to value sets, the majority of mentors valued student-centred pedagogy and thought that it was an effective way to facilitate pupil learning and understanding. Like the tutors, there was a spectrum of interpretations of what constitutes student-centred pedagogy; however, in principle, mentors were familiar with the discourse of student-centeredness and believed it to be a good thing. However, in reality there were many challenges within basic schools that made implementation of student centred methods difficult. Both mentors and mentees across context discussed challenges such as:

- large class sizes
- time to plan/implement
- difficulty of managing children/groups
- lack of TLMs
- difficulty of moving furniture

Given these barriers, the predominant student-centred methods that mentors modelled was the use of Q&A and use of found objects. Similar to the tutors at CoEs, it is likely that these methods were interspersed within a broader teacher-centred, lecturing methodology. That said, a majority of mentors did think it was important for mentees to practice student-centred methods during teaching practice, and often tried to support through the provision of extra TLMs and guidance on lesson plans. When asked if mentors had ever seen a mentee using a teaching technique that they weren't familiar with, most mentors said 'no'; however, at three teaching practice schools, mentors specifically mentioned seeing mentees use songs, rhymes and new ways to teach maths. This led to a broader discussion of whether the methods taught at CoEs were relevant to the realities in basic schools. A majority of mentors believed this to be the case, as demonstrated in the following figure 9.

Figure 9 - Questionnaire statement: 'I don't think the methodology that mentees learn in CoE applies to the reality of the basic school classroom'



It is positive that mentors believed the methodology taught in CoEs to be pertinent to their basic school realities; however, mentors were also asked what challenges mentees might face when transitioning from learning in a CoE to teaching in a basic school. They elucidated challenges such as:

- not knowing the local language
- GES lesson plans being different from the lesson plans used in CoEs
- being assigned a class they are not confident to teach
- being deployed to a rural area
- delays in GES salary disbursement/payroll
- not knowing classroom management strategies
- lack of TLMs

Many of these challenges are due to structural problems within the education system (such as a lack of matching/ preference given within the deployment system, inadequate TLMs and differing GES lesson plans), and others are due to gaps within the DBE curriculum (such as lack of classroom management strategies and differing CoE lesson plans).

That said, mentees were generally quite positive about their teaching practice experiences and enjoyed working with their mentors. There were only a limited number of experiences in which mentees and mentors did not get on, and this was attributed to the lack of respect that mentees had because mentors did not in any way contribute to their final assessment. Mentees commented that mentors were generally present and supportive, and when CoE teaching practice coordinators were probed about the number of instances in which mentors would leave class and have mentees to teach class by themselves, the number was fairly low (estimates of instances of absent mentors totalled between 5-10%).

Mentees commented that mentors did often try to give specific support to female mentees; and although this was often interpreted as financial or TLM support, there were instances in which mentees described mentors providing counselling to females, particularly with regard to warning them about villagers who had the potential for engaging in sexual harassment. One tutor responsible for overseeing a number of teaching practice schools for her college further commented that in once instance, the lead mentor/head teacher was pursuing female mentees in a very inappropriate way. Although the tutor did speak to the head teacher about his behaviour, the school remained as a teaching practice school without reprimand, and the only further protection that subsequent female mentees were given was a warning to stay away from the head. This is very disconcerting and although guidelines have been provided to lead mentors and mentors about sexual harassment (via T-TEL teaching practice handbooks), this speaks to the need for further investigation and action regarding the type and frequency of sexual harassment experienced by female student teachers.

Other key findings: Mentors' views on gender responsive pedagogy

Overall, the majority of mentors were not familiar with the term 'gender responsive' or 'gender sensitive' pedagogy; however, after a brief explanation of what it was, many believed they were already doing it. Like CoE tutors, mentors had a general

valuing of equality within society, and thus equated gender responsive pedagogy with equality of opportunity, such as asking equal number of questions to girls and boys. Again, like tutors, there was rarely any nuance beyond this intuitive understanding of GRP, which speaks to the lack of explicit or comprehensive training on it.

In summary

At the time of this research, most mentors and lead mentors had not had any training on how to conduct the teaching practice (T-TEL lead mentor training on the TP handbook commenced implementation at the end of this data collection), however, many did not see this as problematic as many seemed to intuitively show mentees what they do on a daily basis. Most mentors did enjoy their role (even though most did not have a choice to be one) as many felt it eased their teaching burden, helped with control of large classes, and reduced the amount of time/effort needed for marking. Although this positive attitude meant that mentors were often present and enthusiastic, it did not guarantee that they were modelling and reinforcing the four key practices with their student teachers.

Key findings from Student Teachers

As discussed in the previous sections, this study has aimed to unpack the behaviour changed needed by key CoE actors, in order to produce Beginning Teachers that demonstrate four key practices that aim to improve teaching and learning in schools. Our research with Year 1 and 2 students in colleges aimed to triangulate college leader and tutor answers, and provide further insights into the following questions:

- Do student teachers value these four key practices and will they use them?
- Are tutors and mentors teaching and modelling these practices?
- Is the curriculum/exam system reinforcing student teachers' use and demonstration of these practices?

With regard to valuing student-centred pedagogy, Year 1 and 2 student teachers valued this both as learners and as future teachers. As future teachers, they understood that such methods were most effective in enhancing pupil learning; however, they were also aware that the constraints and realities of basic school classrooms would make implementation of these difficult. As learners in CoEs, student teachers had a definite preference for tutors to use activity-based, student-centred methods (over lecturing) as these were more engaging, allowed students to apply new knowledge, and facilitated better understanding and retention of content. That said, there was still a small number of students who, like their tutors, believed that lecturing was still an effective way to facilitate learning and the passing exams. Figure 10 below shows how Year 2 students felt about lecturing and this is in stark contrast to their views on student-centred methods (in figure 11).

Figure 10 – Questionnaire statement: 'I learn more when tutors use the lecture method'

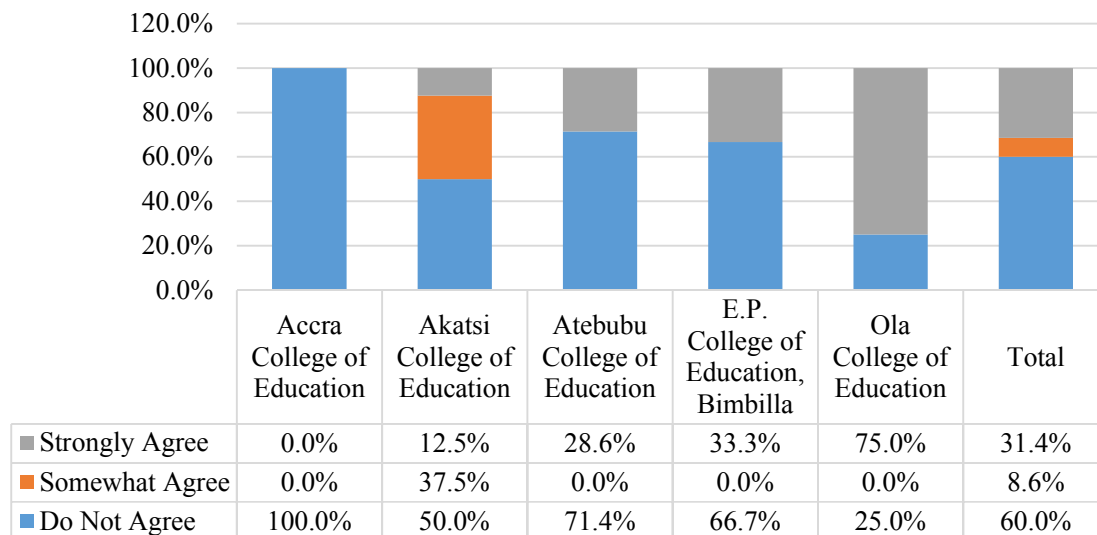
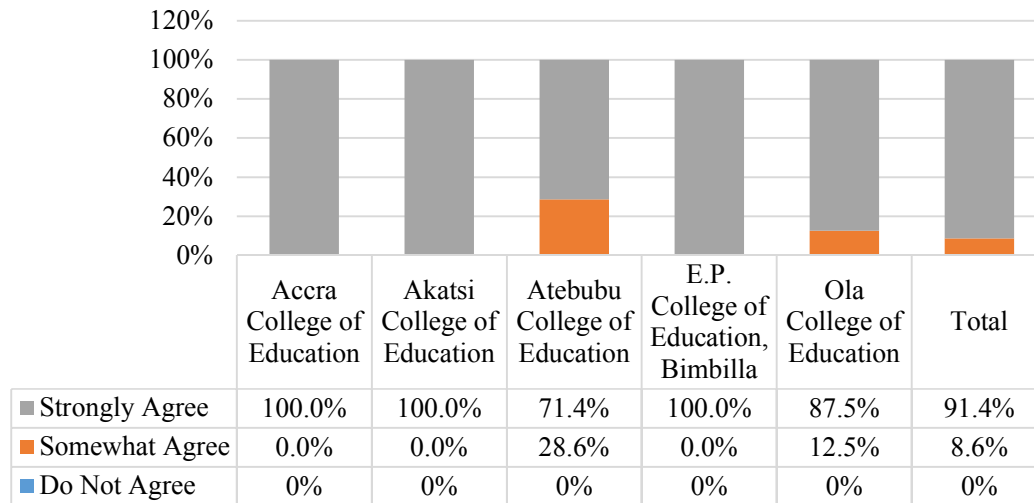
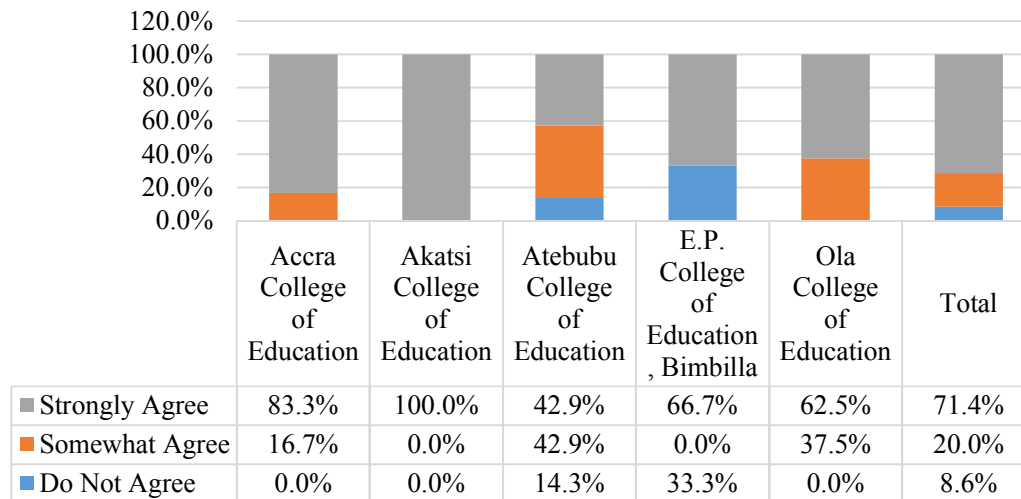


Figure 11 – Questionnaire statement: ‘I learn more when tutors use interactive, student-centred methods’



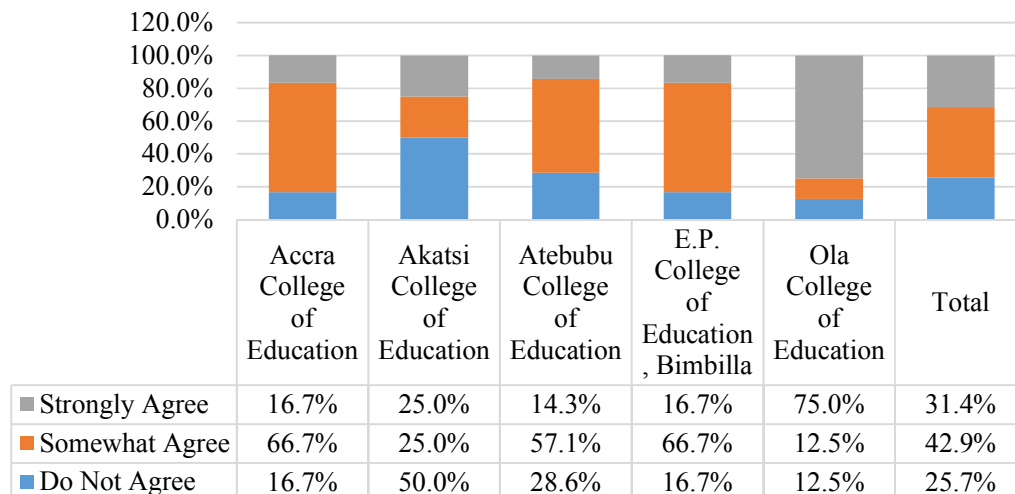
Luckily, the majority of students felt that their tutors were using student-centred methods in class (as shown below).

Figure 12 – Questionnaire statement: ‘My CoE tutors use interactive, student-centred teaching methods’



However, it should be noted that the above findings reflect that tutors would usually include 1-2 student-centred activities within a broader lecture, as opposed to having an entire lesson be student-centred (as discussed in the Tutor findings). The following figure 13 demonstrates that tutors did indeed still use lecturing methods in class.

Figure 13 – Questionnaire statement: ‘My CoE tutors generally use the lecture method’



As discussed in the tutor findings, the reliance on lecturing was due to its alignment with ‘teaching to the exam’; and it was clear that both Year 1 & 2 students were also aware of the problems with exams that demanded ‘chew and pour’ (memorisation and regurgitation), as opposed to learning or demonstration. One Year 2 student commented, “For the last two semesters we did a course – principles of education - and some areas I wasn’t clear with. But I just had to memorise what was in the book to pass the exam. Now if you asked me something concerning that I can’t tell you anything because I have forgotten.”

Given this sentiment, it is clear that the course content and exam system in CoEs does not encourage learning for understanding or practicing of the four key practices. So even though student teachers did think student-centred pedagogy should be used in basic schools, and did value it themselves as learners, the CoE system is not set up to allow students to fully learn or practice student-centred pedagogy in a meaningful way⁸. Thus, Year 1 and 2 Student teachers also only know student-centred pedagogy from memorising and regurgitating content rather than practicing.

That said, there is one other significant factor that will affect how and to what extent student teachers will use student-centred pedagogy in basic schools – that is whether they will actually *remain* teaching in basic schools beyond 2-3 years. In asking both Year 1 and 2 students whether they plan to continue their studies after deployment, a resounding majority agreed they would

Figure 14 – Questionnaire statement: ‘After graduating from this CoE I plan to go on for further studies and get my degree’ (Year 1 response)

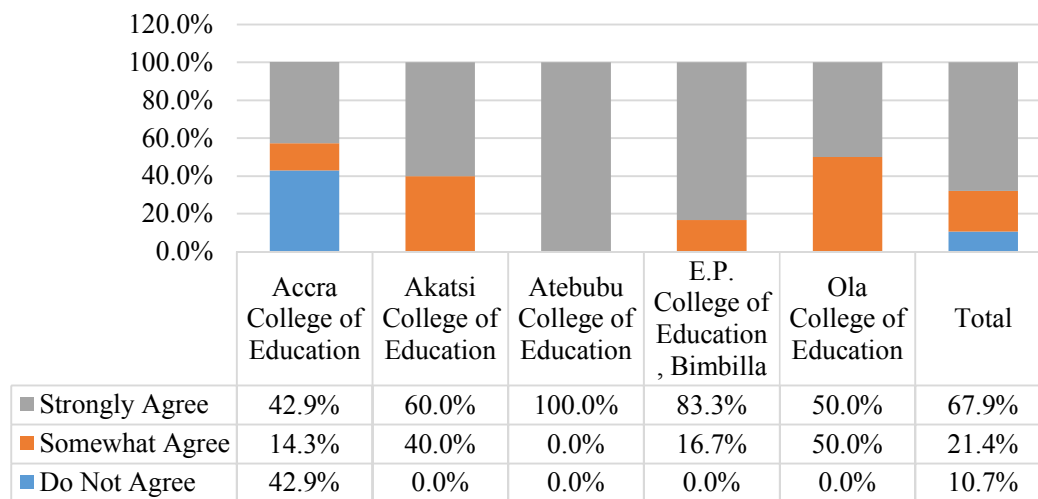
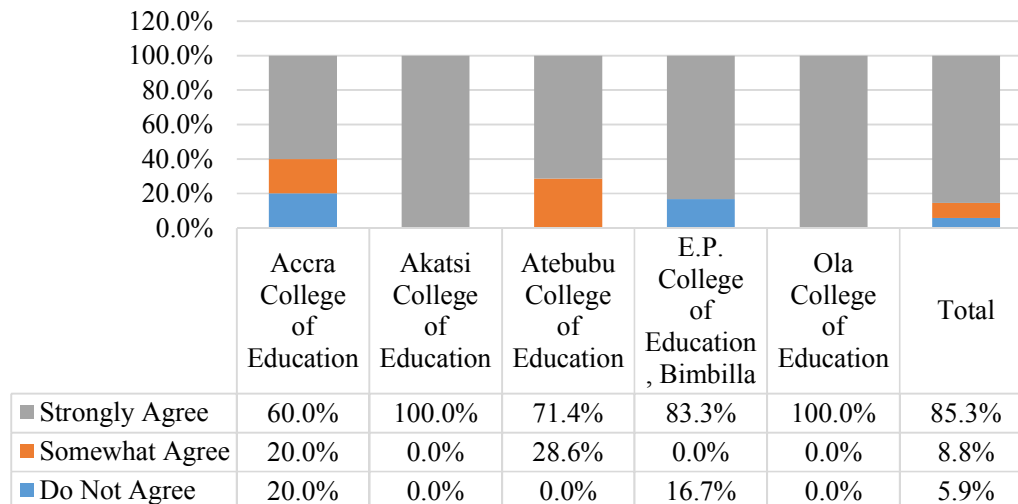


Figure 15 – Questionnaire statement: ‘After graduating from this CoE I plan to go on for further studies and get my degree’ – (Year 2 response)



⁸ There is ‘micro teaching’ in CoE, in which students role-play and teach to their fellow students. These exercises however, are not taken seriously (there is a lot of heckling from peers), and is not assessed.

From figures 14 and 15, we can see that a majority of students see their time at CoEs as a stepping stone to further studies. Most students plan to continue to do distance learning during their first few years at a basic school in order to gain their Bachelor's degree and then teach at the secondary level. Of course, not all student teachers will be able to achieve such an outcome, but it is worth checking the assumption that many of the beginning teachers that come out of CoEs will remain there for any significant amount of time.

Other key findings: Students' views on gender responsive pedagogy

Like the mentors, the majority of students were not familiar with the term 'gender responsive' or 'gender sensitive' pedagogy; however, after a brief explanation of what it was, many felt they had a clear understanding of it, which entailed asking equal numbers of questions to girls and boys. Again, like tutors and mentors, there was rarely any nuance beyond this intuitive understanding of GRP, which speaks to the lack of training on it within the DBE curriculum.

In summary

It is worth looking at the questions that were posed at the beginning of this section in order to gauge how and to what extent student teachers will demonstrate the four key practices when they are deployed to basic schools in the coming years.

- **Do student teachers value the four key practices and will they use them?** Yes and no. Students do value these practices and will try to model specific activities/games that they saw their tutors use in class. However, the reality and challenges of basic school classrooms will likely push them towards a default teacher-centred method of teaching.
- **Are tutors and mentors teaching and modelling these practices?** To a certain degree, yes, but they are within a broader lecturing methodology. Students do appreciate this effort however, and will likely model activities and techniques that they enjoyed in the future.
- **Is the curriculum/exam system reinforcing student teachers' use and demonstration of these practices?** No. Knowledge of student-centred methods is for 'chew and pour' purposes and gender-sensitive methods are not addressed directly in course content/exams.

The following section discusses recommendations for the curriculum/exam system, as well as broader recommendations that are based on the government of Ghana's overall goal of producing better prepared, professionally-trained teachers, and the findings from this research.

Recommendations

Addressing transition tensions in CoEs

7. **Review and nuance NCTE/NAB standards and policies:** As discussed, due to a discourse and assumption that CoEs *should* conduct themselves like universities now that they are tertiary institutions, it seems that university standards have been applied to CoEs in an unnuanced blanket fashion. As such, many CoE leaders are trapped within a tension between striving to meet aspirational NCTE/NAB policies, and the acute realities of CoE human/financial resource constraints and cultural constraints. Most leaders feel that they are trapped in a very unfair situation, but some have had the confidence and creativity to circumnavigate constraints, and have thus been able to hire staff amongst a hiring freeze and complete projects without readily available funds.

That said, it would be helpful if NCTE/NAB standards acknowledged the capacity, resource and cultural shifts that are required for CoEs to become more like universities; and that they either created different types or tiers of tertiary institutions, or provided a scaffolded set of realistic standards (with appropriate timeframes) that acknowledged CoE realities. T-TEL has supported NAB to further develop standards for CoEs, but these would also benefit from more nuance; otherwise, CoEs will be playing 'catch up' with infrastructure/HR standards that at times have not been appropriate or relevant.

Enabling tutors to teach and model the four key practices:

- 8. Certification for tutors who implement PDS methods:** As discussed, the overall level of student-centred pedagogy has increased within CoEs within the last year due to the addition of 1 or 2 student-centred activities within broader lectures. Students have certainly responded and appreciated the shift, however, as long as the high-stakes exam culture persists, accompanied by tutors' perceptions that lecturing is the most efficient and effective way to produce exam passes, it will remain difficult to prompt meaningful and sustained pedagogical change in colleges.

T-TEL PDS has prompted a certain degree of change in the short-term, however engagement and sustained implementation of new student-centred methods could be improved. Findings from previous research with PDCs showed how certification would provide Tutors with valuable evidence that they have satisfactorily completed PDS (this sentiment was also confirmed during this longitudinal study). T-TEL could set up a system whereby tutors are asked to put together a portfolio at the end of each semester to demonstrate the following:

- Verification of attendance of the entire PD session, for at least 80% of the sessions
- Verification of positive contribution/participation during PD sessions
- 4-5 completed activity plans with self-assessment/reflections after implementation
- 3 short case studies regarding the application of 3 different strategies in class (tutors would write an analysis of why the strategy worked/didn't work, what affect it had on students, and what new ideas/adaptations they would recommend).
- 1 TLA evaluation/lesson observation
- Student evidence (via survey, testimonial, etc.)

These examples need to be developed further, and fortunately T-TEL's Component 1 has already begun this process. Upon finalisation of the evidence base needed for the Tutor portfolios, very clear guidelines need to be developed and disseminated to Principals, College Leaders, PDCs and Tutors (as well as discussion of how this might apply to previous semesters).

- 9. Replacing exams with portfolio assessments for students:** As discussed, high-stakes exams have also shaped tutor pedagogy a great deal in that 'teaching to the exam' is perceived to be best done via lecturing. However, if students were no longer assessed via exams (and by extension, tutors were no longer judged by the exam scores they produce), the use of lecturing may subside. Instead, student assessments should reinforce the use and demonstration of the four key practices, which could be done by a portfolio of evidence (such as the one discussed above).
- 10. Training on gender responsive pedagogy:** As discussed, although most tutors have a concern for gender equality in their classrooms, their understanding of gender responsive pedagogy and what it entails is quite shallow. There is much more to GRP than giving females and males the same opportunities to answer/ask questions; and given the concern that tutors have for their female students, it would seem ideal to introduce them to the nuance of GRP. In addition to this, any GRP training would involve a sensitisation to sexual harassment and findings from this study would show that there is clearly a need for this.

Enabling mentors to teach and model the four key practices:

- 11. Supporting/training mentors to demonstrate the four practices during teaching practice.** The content of T-TEL's Teaching Practice Handbooks attempts to do this, however, there is no explicit training or coaching to support the handbooks as there has been with T-TEL PDS. Additional training/coaching at basic schools in the vein of PDS is beyond T-TEL's budget and remit; however, it is worth being mindful of this gap as it will affect the degree to which mentors will significantly change their practice/behaviour and ensure demonstration the four practices.

Enabling students to teach and model the four key practices:

- 12. Replacing exams with portfolio assessments for students:** As discussed above, high-stakes exams have shaped what and how students learn in CoEs. In order to reduce this 'chew and pour' exam culture, student assessments should instead reinforce the use and demonstration of the four key practices, via a portfolio of evidence. This is something that has already been identified by the DBE curriculum review/reform team (Component 5) and it is hoped that the findings from this study demonstrate the negative effects that exams have on teaching and learning.

13. DBE curriculum revision to include gender responsive pedagogy and classroom management strategies: Like tutors, students have a fairly shallow understanding of gender responsive pedagogy and it is imperative to introduce them to the nuance of GRP. In addition to this, there are other gaps in the DBE curriculum that should be addressed in the review/reform process, such as classroom management strategies and alignment of CoE lesson plans with those used by GES in basic schools.

ANNEX A - Longitudinal Study Research Design

This document presents T-TEL’s proposal for embedding a longitudinal qualitative study around its quantitative baseline, midterm and endline studies. The rationale for this is that although the three quantitative studies will provide measurements that indicate what is happening and changing before, during and after programme interventions, it will not explain *how* and *why* these changes are occurring. Thus, the proposed qualitative study will aim to provide an in-depth understanding of and explanations for any changes in behaviour that are indicated through the quantitative baseline/midterm/endline measurements. Taken together, this qualitative and quantitative research will provide a long-term, mixed-methods approach to understanding and evaluating T-TEL that will serve three purposes:

- 1) ongoing qualitative data collection will inform technical/implementation improvements in programme activities
- 2) qualitative data will nuance evaluations of T-TEL that are based solely on logframe indicator measurements
- 3) both qualitative and quantitative data will produce robust evidence that can inform policy/practice aimed at driving improvements in CoEs

Background

Transforming Teacher Education and Learning (T-TEL) in Ghana is a four-year government programme aiming to transform the delivery of pre-service teacher education by improving the quality of teaching and learning in Ghana’s 38 public Colleges of Education (CoEs). T-TEL activities are geared towards supporting change in a range of beneficiaries’ practices, such as supporting CoE Principals’ use of College Improvement Plans, enhancing CoE Tutors’ use of student-focused teaching methods, and facilitating school Mentors’ use of gender-sensitive mentoring strategies. Key beneficiary practices have already been selected for representation in the T-TEL logframe, and measurements were taken during a quantitative baseline study conducted in October 2015. This ‘snapshot’ of beneficiary behaviour will be taken again at the programme’s midterm and endline in order to show how and to what extent behavior is changing over the course of the programme⁹. As part of the broader research programme, T-TEL is aiming to implement an ongoing, three-year qualitative study that entails data collection in and around the actors and practices highlighted in the logframe, in order to capture the process of change to which T-TEL interventions will contribute.

T-TEL Outcomes and Theory of Change

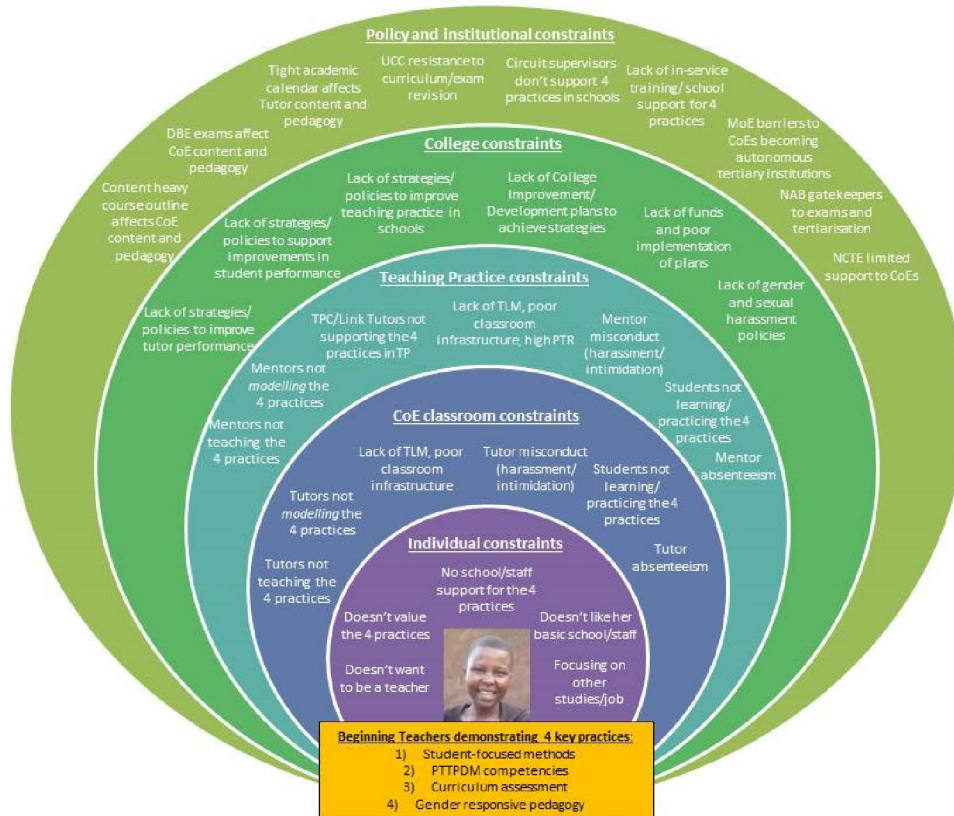
The T-TEL programme constitutes Output 3 of the broader Girls-Participatory Approaches for Student Success (G-PASS) programme, which aims to contribute to improved retention, completion and attainment rates for girls at the JHS and SHS levels; and a better educated female population, more broadly. T-TEL’s Output 3 entails improving the quality of teaching and learning, particularly with regard to girls at the basic and JHS levels. Thus, T-TEL’s programme Outcomes relate to Beginning Teachers demonstrating four key practices that aim to improve the teaching and learning in schools. These four practices are represented in T-TEL’s Outcome indicators, and were measured at baseline via three research instruments that provided a triangulated measurement (and a composite score) for Beginning Teachers’ demonstration of the four practices in their classrooms.

BEGINNING TEACHERS (primarily maths, science and English, disaggregated by female/male)			
Outcome Indicator 1	Outcome Indicator 2	Outcome Indicator 3	Outcome Indicator 4
% of beginning teachers demonstrating interactive student focused instructional methods	% of beginning teachers demonstrating core competencies in the Pre-Tertiary Teacher Professional Development Management Policy Framework (PTPDMP)	% of beginning teachers demonstrating knowledge and application of basic school curriculum and assessment	% of beginning teachers demonstrating gender sensitive and learner centred instructional strategies.
<p>Evidence for all 4 indicators provided by composite scores on:</p> <ol style="list-style-type: none"> 1) Beginning Teacher Lesson Observation 2) Follow-up Interview with Teacher (triangulation) 3) Pupil Sleeping Game Survey (triangulation) 			

The baseline scores for Beginning Teachers on these Outcomes were low (final percentages for each Outcome indicator ranged from 0% - 3.7% at the highest - see baseline report for more details). Clearly, these percentages need to be raised in order to improve the quality of teaching and learning that Beginning Teachers bring to their classrooms. However, there are a number of challenges and constraints on Beginning Teachers’ performance. The following diagram outlines a preliminary analysis of the different levels of constraint on Beginning Teachers’ ability to demonstrate the four key practices:

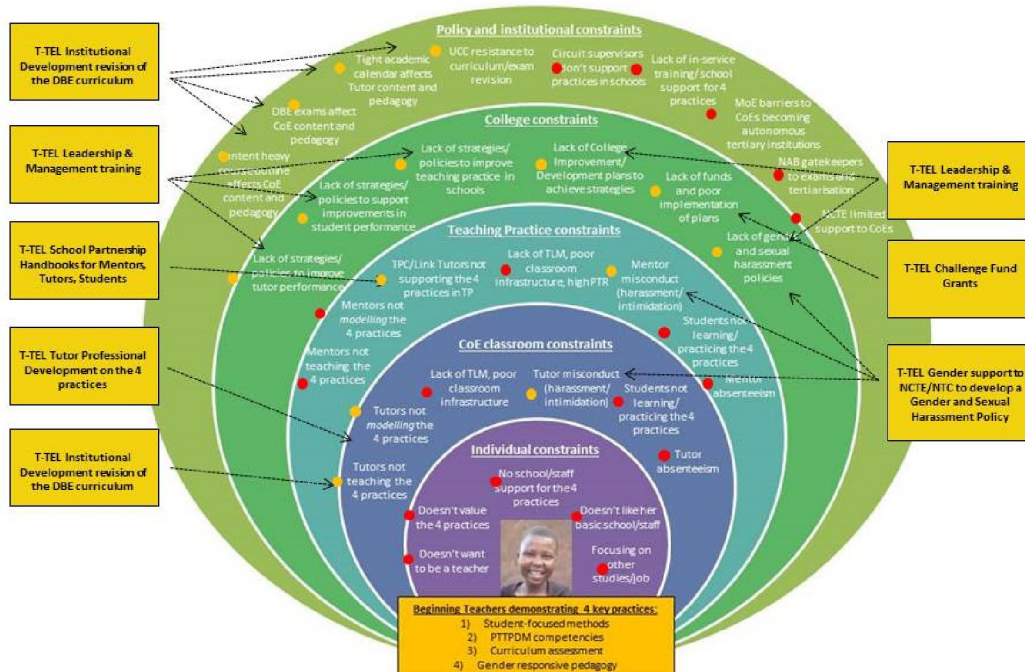
⁹ In addition to this, annual ‘mini surveys’ will be conducted in order to gauge progress against logframe milestones

Figure 1. Constraints on Beginning Teachers



This list of constraints require further refinement and validation, however, it does offer insight into why baseline indicators were so low, and also shows how T-TEL activities have been designed to address many of these constraints, particularly with regard to CoEs. The following diagram illustrates which T-TEL technical components address which constraints (indicated by the yellow boxes and dots); and it also indicates (via the red dots) the gaps and issues that T-TEL is not directly addressing (or not addressing to a significant degree). It is important to be mindful of these gaps (and also tweak activities in order to address them) as they could override the effects of T-TEL activities on Beginning Teachers' ability to demonstrate the four key practices.

Figure 2. T-TEL activities to address constraints



Given the different areas of intervention, we can see the different behaviour changes and areas of intervention needed to enable Beginning Teachers to demonstrate the four key practices. The T-TEL logframe reflects these different actors and areas, and the baseline/midterm/endline studies provide quantitative measurements of *how* actors are performing before, during and after T-TEL activities. The qualitative longitudinal study will provide an in-depth understanding of *why* change may or may not be happening amongst these actors, and in doing so, will also inform improvements to ongoing activities in order to further enhance change. In addition to this, both the qualitative and quantitative data taken together will produce a robust, mixed-methods approach to providing evidence of ‘what works’ and why. Thus, the following section outlines a broad research design for the longitudinal qualitative study, how it will interface with the quantitative studies, and how it will drill down into prioritised areas, which will be guided by, but not limited to, the actors and intervention areas highlighted in the logframe.

Research Design

Since the quantitative baseline/midterm/endline studies will provide measurements of how these groups are performing over the course of T-TEL, qualitative data needs to be collected in and around these actors in order to provide an in-depth understanding of the process of change to which T-TEL interventions will contribute.

Given the aim to provide a nuanced understanding of change in beneficiaries’ attitudes and behaviours, a variety of empirical methods will be used to add rigor, complexity, richness and depth to the study. Thus, in-depth case studies will provide an overarching data collection strategy, as they not only foster the use of multiple methods, but will also entail spending time at the sites of research in order to facilitate detailed understandings of participants’ lived experiences. This case study approach would also provide for cross-case comparisons with regard to both geography (one CoE would represent each of the 5 zones), as well as achievement (CoEs performing well/not well).

Sampling, data and methods

The following table outlines the proposed respondents and research methods that will be used at each case study college.

	6 College Leaders from each CoE (principal, vice, GC, AB, Finance/ QA officer, Secretary)	10 Tutors from each CoE (Maths, Science, English, TPC)	5 Mentors & 5 Mentees from TP schools (Maths, Science, English)	6 Beginning Teachers from surrounding schools (Maths, Science, English)	10 CoE Students (same cohort will be tracked from Year 1-3)
Methods	<ul style="list-style-type: none"> • Observation/shadowing of principal (to show a ‘day in the life’) • semi-structured interviews • Focus Groups • Questionnaires 	<ul style="list-style-type: none"> • Semi-structured interviews • Observation/shadowing • Video recording of lesson (as basis for further discussion) • Focus groups • Questionnaires • Learning journals 	<ul style="list-style-type: none"> • Semi-structured interviews • Observation/shadowing • Video recording of lesson (as basis for further discussion) • Focus groups • Questionnaires 	<ul style="list-style-type: none"> • Semi-structured interviews • Observation/shadowing • Video recording of lesson (as basis for further discussion) • Questionnaires 	<ul style="list-style-type: none"> • Semi-structured interviews • Observation/shadowing of Student Teacher • Focus groups • Questionnaires

It should be noted that the data and methods in the above table will be discussed in more detail in the following sections that focus on each of T-TEL’s technical components. That said, the next section discusses how we might go about implementing this proposed data collection.

Implementation strategy

As discussed, the aim of this study is to investigate the challenges within pre-service teacher education in Ghana, and how these can be addressed (through programmes like T-TEL) in order to strengthen future cadres of Beginning Teachers. Such research would presumably be of great interest to NCTE and PRINCOF, not only during the life T-TEL, but also into the future. Thus, it would be ideal to have these national institutions lead in the commissioning of this research in order to develop the processes and protocols needed to commission similar studies in the future. With the support of T-TEL, it is envisaged that NCTE, NTC and PRINCOF will lead in the following activities in order to implement this research:

1. Lead in the communication to colleges on aims and research design (ie., 5 CoEs will be selected, 6 tutors from these CoEs will participate in data collection)
2. Lead in the selection of the five case study colleges (communication should also convey criteria for CoE and Tutor selection)

3. Lead in selection of Tutors to become data collectors (Tutors should submit a competency essay and CV)
4. Commission the 5 case study colleges to participate in the study (in which T-TEL will provide technical leadership, coordination and support)
5. Host a conference at the end of the study to disseminate findings and policy briefs

T-TEL will provide technical, administrative and financial support to NCTE/NTC/PRINCOF throughout the above activities. For example, T-TEL's M&E/Research Adviser, Dr. Sharon Tao, will aim to provide the research design, leadership, training, quality assurance and final analysis for this study with the assistance of 2 contracted researchers and a research officer. These four people will form the core research team. In addition to this, opportunities to collect data will be given to six carefully selected Tutors from each of the case study colleges.

Given the sensitivity and power dynamics involved in collecting data from College leaders and Tutors, it is envisaged that the core research team will work with these respondents. Then 2 of the selected CoE Tutors will collect data from the 5 Mentors and 5 Mentees at the partner schools, 2 tutors will collect data from the 6 Beginning Teachers in nearby schools, and 2 tutors will collect data from 10 CoE students.

The core research team will be based in each case study college for approximately two and a half weeks during the autumn semester of 2016. At each college, 2-3 days will be spent conducting research training and orientation with the selected Tutors, 6-8 days will be spent on data collection at the college, and 2-3 days will be spent conducting an analysis and writing workshop.

As this is a longitudinal study, it is envisaged that the same data collection process will occur over the course of the T-TEL programme. Thus, the same case study CoEs will be visited (along with the same respondents, if available) from Oct – Dec 2016, and May – July 2018. That said, the Tutors who are initially selected to be data collectors will be subject to performance reviews and will only be invited to participate in subsequent years based upon satisfactory performance.

Criteria for CoE selection

Although the five college sample for this study is too small to be considered 'representative', the selection of case study CoEs will aim to broadly reflect the geography and demographics of all the Colleges of Education¹⁰. The following table outlines the criteria/characteristics that will be used for case study selection and the rationale behind them.

Criteria for case study selection

Criteria/ Characteristics	Rationale	Recommendation
Geography	To provide geographical representation across Ghana	1 CoE per zone
Gender profile of students	To reflect the demographics of the students: 32/40* mixed female & male students (80%), 7 female only (18%), 1 male only (2%)	4 mixed, 1 female single sex
Management history/background	To reflect the management history/background of the CoEs: 19/40 are mission schools (47%) and 21/40 (53%) are government run	3 government, 2 mission
Gender of Principal	To reflect the demographics of the principals: 11/40 female principals (28%), 29/40 male principals (73%)	3 male, 2 female

*Although 2 new CoEs are not included in case study selection, their demographics were included to illustrate the background of CoEs in GH.

The table below lists these characteristics for the CoEs currently working with T-TEL. CoEs in bold/yellow are the proposed case study CoEs. Those in italics/blue represent colleges that were sampled for the baseline study. For the purposes of equal opportunity/attention, all proposed case study colleges have not been part of the baseline study.

Zone	NAME of CoE	GENDER	BACKGROUND	PRINCIPAL (M/F)	POPULATION
		M = Mixed SF = Female SM = Male			
ZONE 1	1. Bagabaga College of Education	M	Government	M	970
	2. Bimbila E.P. College of Education	M	Mission	M	1,088
	3. Gbewaa College of Education	M	Government	M	1,124
	4. <i>Nusrat Jahan Ahmadiyya College of Education</i>	<i>M</i>	<i>Government</i>	<i>F</i>	<i>769</i>

¹⁰ It should be noted that although 2 private colleges have been given public college status in 2016 (and will subsequently be part of the T-TEL programme) they will not be considered in the selection for this study as they have not yet received any intervention/support from T-TEL, which is what this study aims to explore.

NORTHERN/ UPPER EAST & WEST	5.	<i>St John Bosco College</i>	M	Mission	M	1,155
	6.	<i>Tamale College of Education</i>	M	Government	M	1,185
	7.	Tumu College of Education	M	Government	M	715
ASHANTI / BRONG AHAFO	1.	<i>Akrokerri College of Education</i>	M	Government	M	1,201
	2.	Atebubu College of Education	M	Government	M	1,140
	3.	<i>Agogo Presbyterian College of Education</i>	SF	Mission	F	732
	4.	<i>Berekum College of Education</i>	M	Government	M	1,247
	5.	Mampong Technical College of Education	SM	Government	M	1,194
	6.	<i>Ofinso College of Education</i>	M	Government	M	1,103
	7.	<i>St. Joseph College of Education</i>	M	Mission	M	869
	8.	St. Louis College of Education	SF	Mission	F	1,017
	9.	St. Monica's College of Education	SF	Mission	F	1,078
	10.	Wesley College of Education	M	Mission	M	1,026
VOLTA	1.	Akatsi College of Education	M	Government	M	1,126
	2.	Dambai College of Education	M	Government	M	702
	3.	<i>Evangelical Presbyterian College of Education</i>	M	Mission	M	599
	4.	Jasikan College of Education	M	Government	M	1046
	5.	<i>Peki College of Education</i>	M	Government	M	631
	6.	<i>St. Francis' College of Education</i>	M	Mission	M	1,013
	7.	St. Theresa's College of Education	SF	Mission	F	630
CENTRAL & WESTERN	1.	Enchi College of Education	M	Government	F	841
	2.	<i>Foso College of Education</i>	M	Government	M	1,008
	3.	<i>Holy Child College of Education</i>	SF	Mission	F	734
	4.	<i>Komenda College of Education</i>	M	Government	M	970
	5.	Ola College of Education	SF	Mission	F	1,057
	6.	Wiaowo College of Education	M	Government	M	1,077
EASTERN /GREATER ACCRA	1.	Abetifi Presbyterian College of Education	M	Mission	M	1009
	2.	<i>Ada College of Education</i>	M	Government	M	838
	3.	Accra College of Education	M	Government	F	911
	4.	<i>Kibi Presbyterian College of Education</i>	M	Mission	M	776
	5.	Mount Mary College of Education	M	Mission	M	1244
	6.	Presbyterian College of Education	M	Mission	M	1,439
	7.	<i>Presbyterian Women's College of Education</i>	SF	Mission	F	665
	8.	SDA College of Education	M	Mission	F	1,076

Outcomes of the research

Upon final data analysis, it is envisaged that the knowledge and evidence produced by this study will contribute to the following:

1. Annual research reports that provide quantitative and qualitative findings on progress made by the T-TEL programme and in-depth explanations regarding how and why change is/isn't occurring
2. Formative reports that provide component-specific findings and recommendations to improve activities and implementation

In addition to these reports, this study will have provided a great deal of capacity development for TLAs, SPAs, PDCs and Tutors, both in research methods and analysis. Institutional capacity within NCTE and PRINCOF will also be developed so that they will be able to commission similar forms of research beyond the life of the T-TEL programme.

In addition to this, the following sections address each of T-TEL's technical components individually. They will discuss component-level theories of change, and the specific research questions that will guide the data collection process during the case studies and targeted component research.

Component 1 - Tutor behaviour change

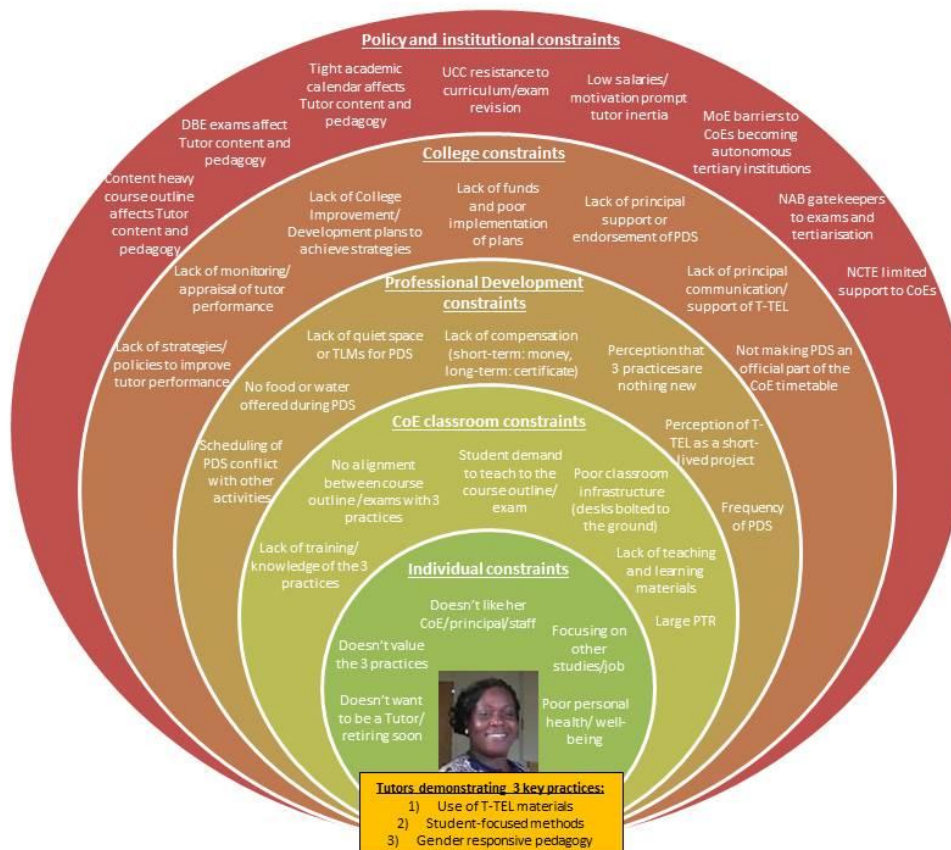
As discussed and illustrated in Figure 2, T-TEL's programme Outcomes relate to Beginning Teachers demonstrating four key practices that aim to improve the teaching and learning in schools. Some key determinants of this is *what* student teachers are taught in their pre-service education (which pertains to the DBE curriculum that will be discussed later), as well as *how* they are

being taught (which regards Tutor pedagogy and practice). The table below outlines the logframe Output indicators that represent/measure the specific Tutor practices deemed to be most efficacious in not only teaching content on the four key practices, but also modelling some of the four key practices themselves.

TUTORS (primarily maths, science and English, disaggregated by female/male)		
Output Indicator 2.1	Output Indicator 2.2	Output Indicator 2.4
% of Tutors effectively using T-TEL teaching and learning materials for lessons and tutorials	% of Tutors demonstrating student-focused teaching methods	% of Tutors demonstrating gender-sensitive instructional methods
Evidence provided by composite scores on: <ol style="list-style-type: none"> 1) Tutor Lesson Observation 2) Follow-up Interview with Tutor (triangulation) 3) CoE Student Questionnaire (triangulation) 		

2015 Baseline scores for Tutors on the above Outputs were low (final percentages for each indicator ranged from 0% - 18.6% - see baseline report for more details). Clearly, these percentages need to be raised in order to improve the quality of teaching and learning for the CoE students who will soon become Beginning Teachers. However, there are a number of challenges and constraints to this. The following diagram outlines a preliminary analysis of the different levels of constraint on Tutors' ability to demonstrate the three key practices acknowledged in the T-TEL logframe:

Figure 2. Constraints on Tutors



The following diagram that indicates how T-TEL activities address many of these constraints (indicated by the yellow boxes and dots), which include but are not limited to Component 1 activities. And as before, the red dots indicate where gaps remain.

Figure 3. Activities aiming to reduce constraint



It should be noted that many of the constraints surrounding the Professional Development sessions were findings that were gleaned during targeted component research conducted at the PDC workshops in March 2016. This demonstrates how this type of nimble research can not only triangulate data from the CoE case studies, but can also help to validate/add to suspected constraints; as well as inform potential solutions (green box) in order to enhance Tutors' ability to demonstrate the three key practices in the logframe. Given the component Theory of Change outlined in Figure 7, the four main research questions that will guide data collection for both the case studies and targeted component research are outline below:

Component 1 research questions

Research question	Methods to collect data for research question
1) What is the state of Tutor classroom practice before, during and after T-TEL professional development (TPD) activities?	Baseline/midterm/endline scores on: <ul style="list-style-type: none"> • Tutor Lesson Observation • Follow-up Interview with Tutor • CoE Student Questionnaire
2) What are the constraints/enablers to Tutors changing their classroom practice?	<ul style="list-style-type: none"> • Targeted component research (PDC/TLA workshop FG) • In-depth interviews/FG with Tutors (case studies) • Tutor learning journals (case studies)
3) How and to what extent does T-TEL TPD affect changes in Tutors' classroom practice?	<ul style="list-style-type: none"> • Targeted component research (PDC/TLA workshop FG) • In-depth interviews/FG with Tutors (case studies) • Observations/video recording of lessons (case studies) • Interviews/FG with Students & Leaders (case studies)
4) How and to what extent will changes in Tutor practice affect Beginning Teachers' ability to demonstrate the four key practices in schools?	<ul style="list-style-type: none"> • In-depth interviews/FG with Tutors (case studies) • Interviews/FG with Students (case studies) • Interviews with Beginning Teachers (case studies)

Through answering these questions, other salient topics will also be touched on, such as Tutor views regarding: 1) Pedagogy and teaching in CoEs/schools; 2) The 4 key practices; 3) The DBE curriculum; and 4) CoE management and students. If there are other

topics/issues that would also like to be explored, such as the role of ICT in T-TEL professional development and how PD modules are being used/stored, additional questions can be added to research instruments.

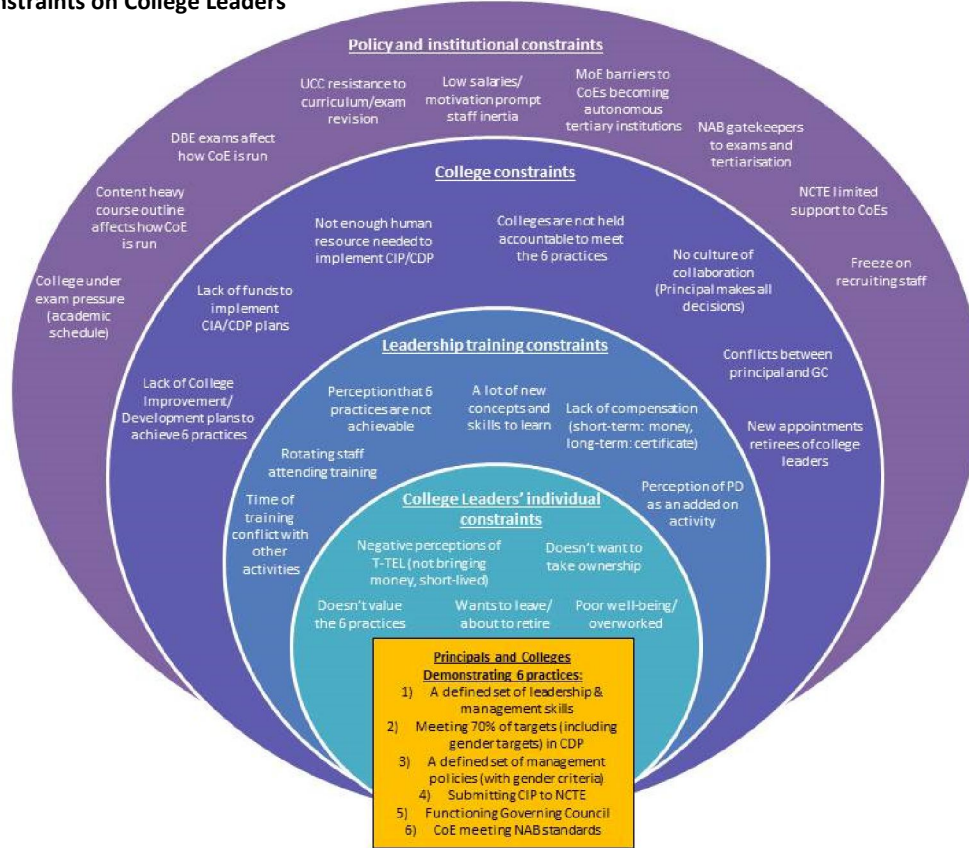
Component 2 – Principal/College Leader behaviour change

In returning to T-TEL’s intended Outcome of Beginning Teachers demonstrating four key practices, another key determinant is whether Colleges provide environments that facilitate this end. The table below outlines the logframe Output indicators that represent/measure the CoE factors (often determined by Principal/College Leader actions) that were deemed to be most efficacious in facilitating positive learning environments for students who will soon become Beginning Teachers.

PRINCIPALS & COLLEGE LEADERS					
Output Indicator 1.1	Output Indicator 1.2	Output Indicator 1.3	Output Indicator 1.4	Output Indicator 3.1	Output Indicator 3.3
Number and % of college principals demonstrating a % achievement of a defined set of leadership and management skills	Number and % of colleges meeting 70% of annual targets, including gender-related targets within College Development Plan	Number and % of colleges with a defined set of management policies demonstrating a defined set of gender sensitive criteria	Number and % of colleges submitting completed annual self–assessments and improvement plans to NCTE	Number/% of CoEs with effective governing councils	Number/% colleges meeting institutional accreditation standards defined by NAB or (equivalent)
<p>Evidence provided by scores on:</p> <ol style="list-style-type: none"> 1) CoE Principal interview and document review 2) Interview with CoE Secretary and/or QA Officer (triangulation) 					

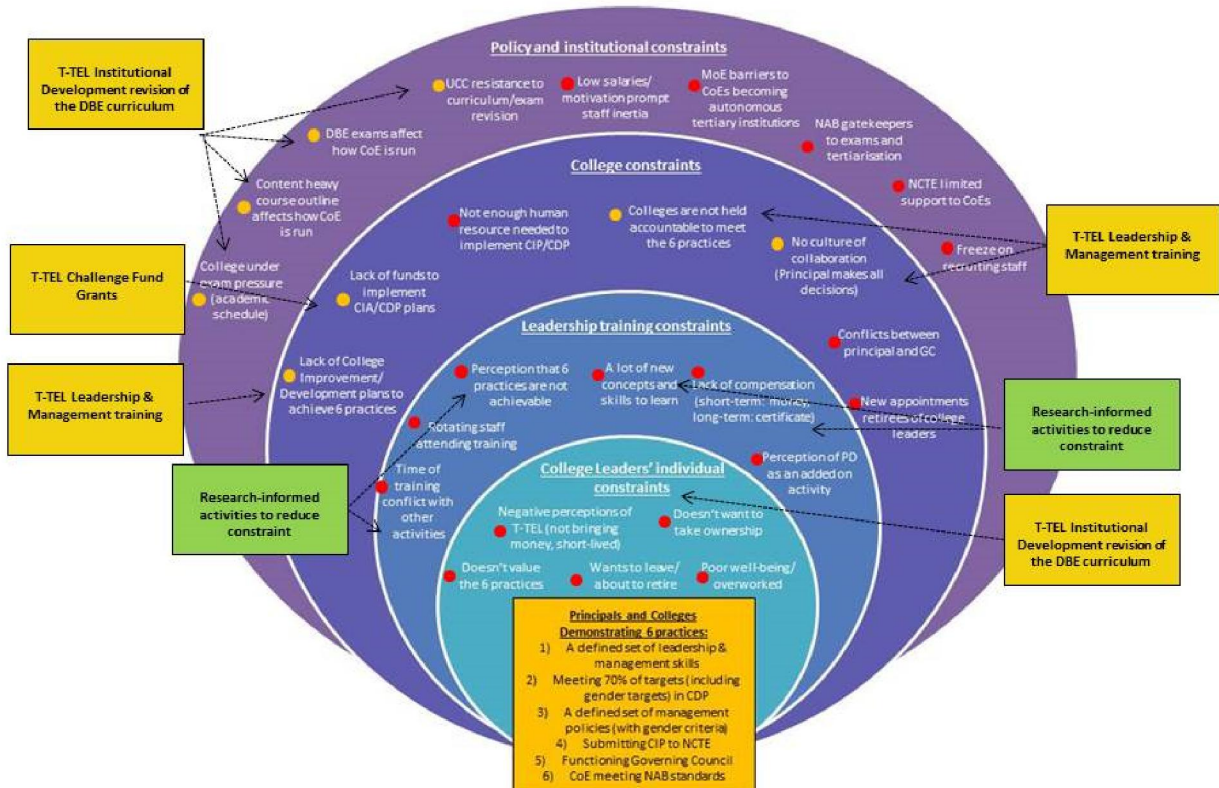
2015 baseline measurements indicated that College Leaders were scoring low on these Outputs indicators (final logframe percentages were 0% for all except for 1.1 in which male principals scored 29.6% and female principals scored 45.4% - see baseline report for more details). These percentages clearly need to be raised in order to improve the learning environments for student teachers. However, there are a number of challenges and constraints to this. The following diagram outlines a preliminary analysis of the different levels of constraint on Principals and College Leaders’ ability to demonstrate these six key practices. Below is another diagram that indicates how T-TEL activities address many of these constraints (indicated by the yellow boxes and dots), which include but are not limited to Component 2 activities. And as before, the red dots indicate where gaps remain.

Figure 4. Constraints on College Leaders



It should be noted that many of the constraints surrounding the Leadership training were gleaned during discussion with the C2 Key Adviser. Further validation is required in order to inform potential solutions (green box) in order to enhance College Leaders' ability

Figure 5. Activities aiming to reduce constraint



to execute the six key practices in the logframe. Given the component Theory of Change outlined in Figure 9, the four main research questions that will guide data collection for both the case studies and targeted component research are outlined below.

Component 2 research questions

Research question	Methods to collect data for research question
1) What is the state of CoE and Principal/College Leader practice before, during and after T-TEL professional development (TPD) activities?	Baseline/midterm/endline scores on: <ul style="list-style-type: none"> • CoE Principal interview and document review • Interview with CoE Secretary and/or QA Officer
2) What are the constraints/enablers to Principals'/College Leaders' changing their leadership and management practices?	<ul style="list-style-type: none"> • Targeted component research (Principal/CIA workshop FG) • In-depth interviews/FG with Principals/leaders (case studies) • Observations/shadowing (case studies)
3) How and to what extent does T-TEL leadership training affect changes in Principals'/College Leaders' management practices?	<ul style="list-style-type: none"> • Targeted component research (Principal/CIA workshop FG) • In-depth interviews/FG with Principals/leaders (case studies) • Observations/shadowing (case studies) • Interviews/FG with Tutors & Students (case studies)
4) How and to what extent will changes in Principal/College Leader practice affect Beginning Teachers' ability to demonstrate the four key practices in schools?	<ul style="list-style-type: none"> • In-depth interviews/FG with Principals/leaders (case studies) • Interviews/FG with Tutors & Students (case studies) • Interviews with Beginning Teachers (case studies)

Through answering these questions, other salient topics will also be touched on, such as Principal/Leader views regarding: 1) Pedagogy and teaching in CoEs/schools; 2) The 4 key practices; 3) The DBE curriculum; and 4) CoE tutors and students. If there are other topics/issues that would also like to be explored, such as the use of the Gender Scorecard, additional questions can be added to research instruments.

Component 3 - Behaviour change with regard to Teaching Practice

Another salient determinant of Beginning Teachers demonstrating the 4 key practices comes from their experience in the classroom during teaching practice (TP). Given that TP is a critical opportunity to reinforce and practically apply the 4 key practices, it is surprising that the logframe does not acknowledge/measure more behaviour change by mentors and teaching practice coordinators (TPCs). Ideally, the indicators for these beneficiaries would be similar to those of CoE Tutors, whereby they should be *teaching/reinforcing* and *modelling* the 4 key practices (in order to enhance Beginning Teachers' ability to do so). Instead, the logframe Output indicator surrounding TP entails Mentors using gender responsive mentoring strategies introduced by T-TEL. This is also very important, as ensuring that mentors are gender responsive during TP will certainly have an effect on students' subsequent practice; however, even though the logframe does not acknowledge/measure more behaviour change in mentors/TPCs, it might be prudent to do so anyway.

MENTORS
Output Indicator 2.3
% of Mentors using gender responsive mentoring strategies introduced by T-TEL
Mentor evidence provided by composite scores on:
1) Mentor Interview
2) Mentee Interview

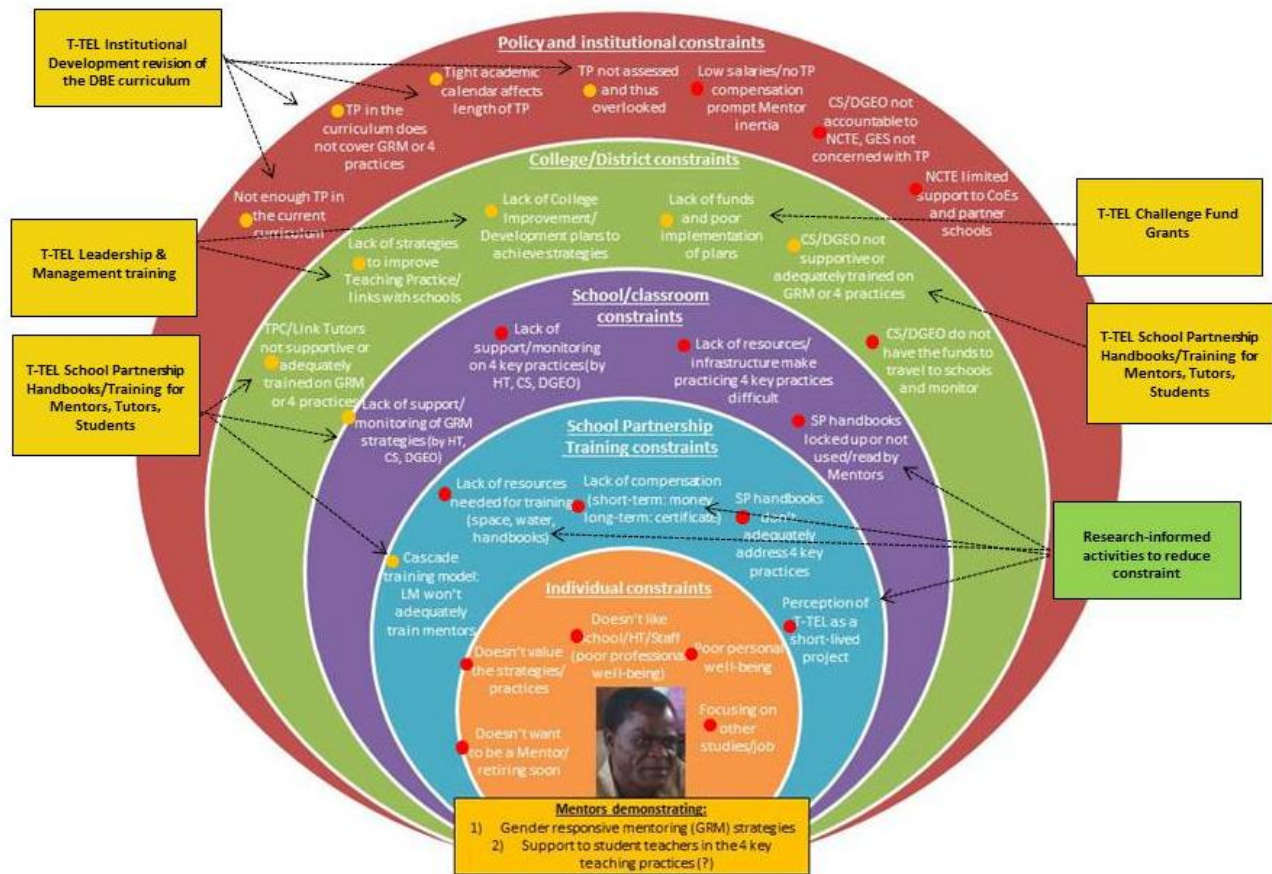
With regard to this indicator, baseline measurements for Mentors were low (final logframe percentages ranged from 0% - 3.85% - see baseline report for more details). As suggested as well, it might be worth gauging how and to what extent Mentors are supporting their Student Teachers/Mentees to apply the 4 key practices during their TP, as this would likely influence their practice as Beginning Teachers. That said, there are a number of challenges and constraints regarding Mentors demonstrating gender responsive mentoring strategies, as well as supporting the use of the 4 practices. The following diagram outlines a preliminary analysis of the different levels of constraint on Mentors' ability to demonstrate these things.

Figure 6. Constraints on Mentors



The following diagram indicates how T-TEL activities address many of these constraints (indicated by the yellow boxes and dots), which include but are not limited to Component 3 activities. And as before, the red dots indicate where gaps remain.

Figure 7. Activities aiming to reduce constraint



It should be noted that many of the constraints surrounding the School Partnership training were extrapolated from the targeted research done for Component 1. Further exploration and validation is required in order to inform potential solutions (green box) in order to enhance Mentors' ability to demonstrate gender responsive mentoring as well as support the use of the 4 key practices. Given the component Theory of Change outlined in Figure 11, the four main research questions that will guide data collection for both the case studies and targeted component research are outlined below:

Component 3 research questions

Research question	Methods to collect data for research question
1) What is the state of Mentor practice before, during and after T-TEL professional development (TPD) activities?	Baseline/midterm/endline scores on: <ul style="list-style-type: none"> Mentor Interview Mentee Interview
2) What are the constraints/enablers to Mentors changing their TP practices inside and outside of the classroom?	<ul style="list-style-type: none"> Targeted component research (TPC/LM/SPA workshop FG) In-depth interviews/FG with TPC/LM/Mentors (case studies) Observations/shadowing (case studies)
3) How and to what extent do T-TEL handbooks and training affect changes in mentors' TP practices, particularly with regard to gender responsiveness?	<ul style="list-style-type: none"> Targeted component research (TPC/LM/SPA workshop FG) In-depth interviews/FG with TPC/LM/Mentors (case studies) Observations/shadowing (case studies) Interviews/FG with Tutors & Students (case studies)
4) How and to what extent will changes in Mentor practice affect Beginning Teachers' ability to demonstrate the four key practices in schools?	<ul style="list-style-type: none"> In-depth interviews/FG with TPC/LM/Mentors (case studies) Interviews/FG with Tutors & Students (case studies) Interviews with Beginning Teachers (case studies)

Through answering these questions, other salient topics will also be touched on, such as Mentors' views regarding: 1) Pedagogy and teaching in CoEs/schools; 2) The 4 key practices; 3) The DBE curriculum; and 4) CoE tutors and students. If there are other topics/issues that would also like to be explored, additional questions can be added to research instruments.

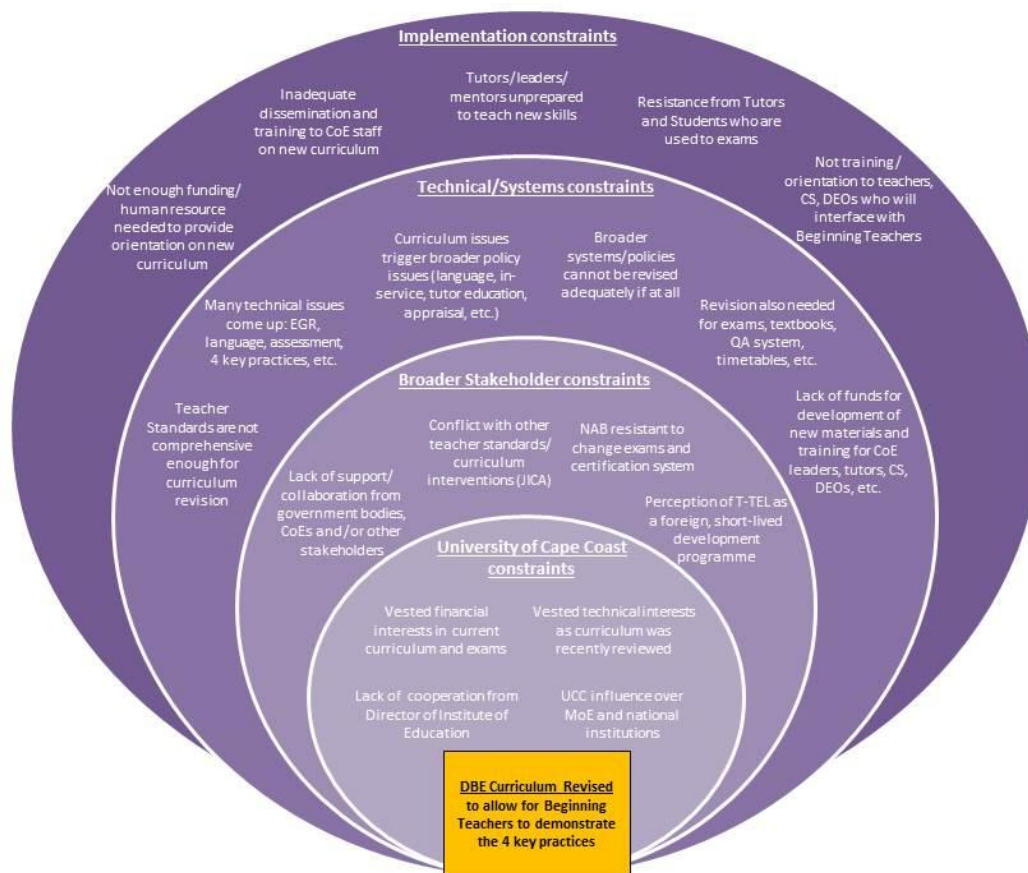
Component 5 – Institutional Development

One significant factor that has featured on all the constraint diagrams, be it for Beginning Teachers, Tutors, Principals or Mentors, is the DBE curriculum and the course outlines, exams and academic calendars that result from it. It has been argued that this curriculum does not adequately include content on the 4 key practices; and in addition to this, because of the high stakes exam system that surrounds the curriculum, Tutors and Principals endorse teaching methods that are quite antithetical to the 4 practices in order to ‘teach to the test’ and prepare students for exams. Thus, the T-TEL logframe does acknowledge the need to address this very salient constraint on Beginning Teachers’ ability to demonstrate the 4 key practices.

DBE Curriculum
Output Indicator 3.4
DBE Curriculum reviewed and revised
Evidenced through reporting on these milestones:
<ol style="list-style-type: none"> 1) DBE Curriculum reviewed (July 2016) 2) DBE Curriculum revised (July 2017) 3) Stakeholder review, inputs and finalisation of revised DBE Curriculum (July 2018) 4) Revised DBE Curriculum implemented in CoEs (October 2018)

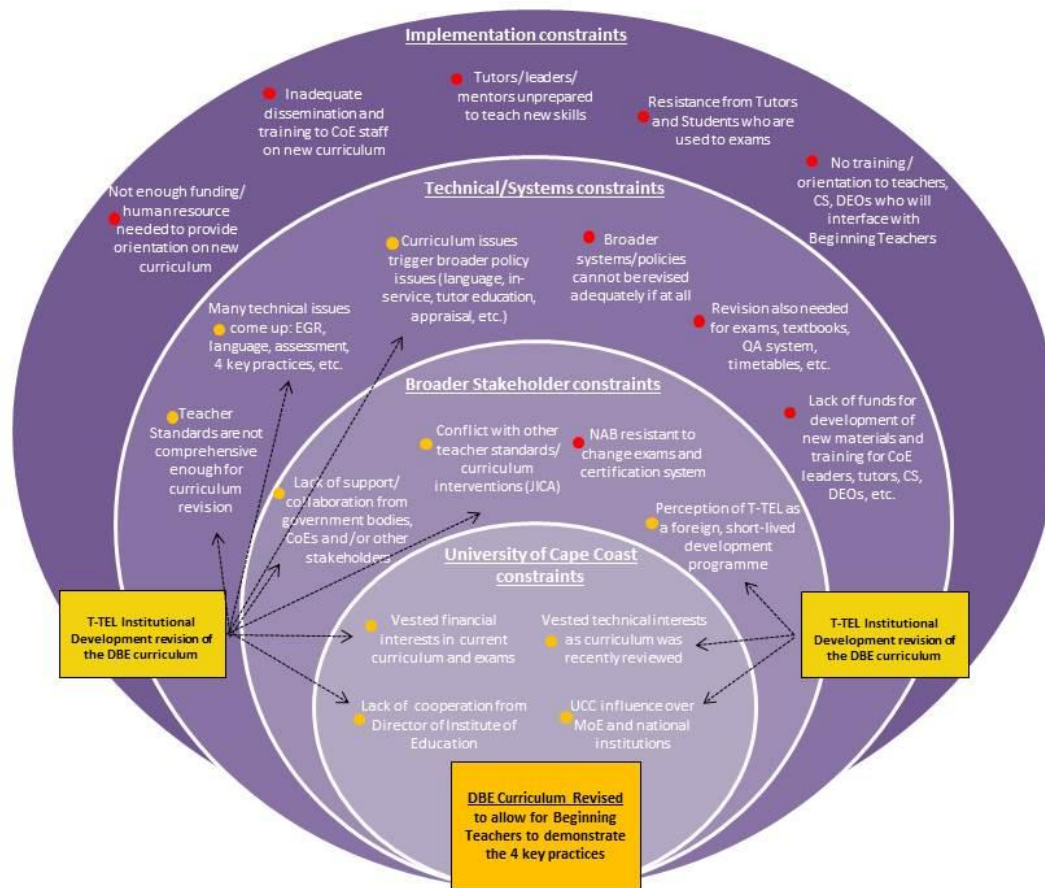
Given the successes that this component has already achieved, it is worth being aware of the number of challenges and constraints regarding the revision and implementation of a new DBE curriculum. Implementation of a new curriculum is key, as this will have a large bearing on how and to what extent Beginning Teachers are able to demonstrate the 4 key practices in their classrooms. The following diagram outlines a preliminary analysis of the different levels of constraint on the revision of the curriculum and moving forwards from there.

Figure 8. Constraint on revising and implementing the curriculum



Below is another diagram that indicates how C4 activities address many of these constraints (indicated by the yellow boxes and dots). As before, the red dots indicate where gaps remain.

Figure 9. Activities to address constraints



It should be noted that many of the constraints surrounding the revision and implementation of the DBE curriculum were extrapolated from a recent Stakeholder Forum held on 31st March at NTCE. Further exploration and validation is required in order to inform strategies to address constraint and enhance the achievement of successful curriculum review and implementation. Given the component Theory of Change outlined in Figure 13, the main research questions that will guide data collection for both the case studies and targeted component research are outlined below:

Component 5 research questions

Research question	Methods to collect data for research question
1) What are the constraints/enablers to successful review, revision and implementation of a new DBE curriculum?	<ul style="list-style-type: none"> Targeted component research (workshop FG/interviews with key stakeholders) In-depth interviews/FG with CoE stakeholders (case studies)
2) How and to what extent do T-TEL current activities and budgets facilitate the successful review and national implementation?	<ul style="list-style-type: none"> Targeted component research (workshop FG/interviews with key stakeholders) In-depth interviews/FG with CoE stakeholders (case studies)
3) How and to what extent will changes in the curriculum affect Beginning Teachers' ability to demonstrate the four key practices in schools?	<ul style="list-style-type: none"> Targeted component research (workshop FG/interviews with key stakeholders) In-depth interviews/FG with CoE stakeholders (case studies) Interviews with Beginning Teachers (case studies)

As the review/revision process continues in 2016, there will be more workshops/meetings in which targeted component research can be conducted. Hopefully, the process of validating and expanding insights on constraints will inform the future planning of activities for this component.

ANNEX B - INTERVIEW SCHEDULE - OLA COLLEGE OF EDUCATION

Scheduled Date for Interview/FGD	Time	Interviewer/Moderator	Name of Respondent	Phone Number	Position	Interview Status
17/01/2017	10.00 am	Mary Kporwodu	Focus Group Discussion with Tutors	Not Applicable	Not Applicable	Completed
	10.00 am	Edmund Aalangdong	Focus Group Discussion with Tutors	Not Applicable	Not Applicable	Completed
	3.00 pm	Edmund Aalangdong	Focus Group Discussion with Year 2 students	Not Applicable	Not Applicable	Completed
	3.00 pm	Mary Kporwodu	Focus Group Discussion with Year 1 students	Not Applicable	Not Applicable	Completed
18/01/2017	9.00 am	Edmund Aalangdong	Sebastin Aha Fynn	0244983031	Tutor - Geography	Completed
	3.00 PM	Edmund Aalangdong	Emma Coffie	0554126130	Year 2 Student	Completed
	3.00 PM	Abdul-Karim Kadiri	Enchia Wisha	0553394624	Year 1 Student	Completed
	3.00 PM	Mary Kporwodu	Amenatu Yussif Suleman	0270260669	Year 1 Student	Completed
19/01/2017	9.00 am	Mary Kporwodu	Gyamfi Francisca	0245157383	Year 2 Student	Completed
	9.00 am	Abdul-Karim Kadiri	Ziaba Charity	0249999715	Year 1 Student	Completed
	9.00 am	Edmund Aalangdong	Wilhelmina Coker	0247730329	Tutor - English	Completed
	12.00 noon	Mary Kporwodu	Focus Discussion with College Leaders	N/A	N/A	N/A
	3.00 pm	Edmund Aalangdong	Mercy Ankrah	0249143882	Year 1 Student	Completed
	3.40 pm	Edmund Aalangdong	Mariam Efua Belloe	0541088881	Year 1 Student	Completed
	3.00 pm	Abdul-Karim Kadiri	Philomena Woode	0249072622	Year 1 Student	Completed
3.00 pm	Mary Kporwodu	Justine Awudetse	0244 11 03 85	QA Officer	Completed	
20/01/2017	10.00 am	Edmund Aalangdong	Rev. F Adu Sarkodie	0246563822	Tutor - Maths	Completed
23/01/2017	9.00am	Sharon Tao	Rev. Sister Elizabeth	0208154321	Principal	Completed
	12.30 pm	Mary Kporwodu	Emmanuel Fenyi	0243847198	Tutor - English	Completed
	12.30 pm	Edmund Aalangdong	Justina Owusu	0243288156	Science Tutor	Completed
	2.30 pm	Mary Kporwodu	Yamoah Rebecca Baafuah	0248018159	Year 2 Student	Completed
24/01/2017	8-9am	Edmund Aalangdong	Zipporah Ampofo	0243117351	English Tutor	Completed
	9:00 AM	Mary Kporwodu	Patrick Amoakoh	0243072720	Mathematics Tutor	Completed

	10.00 am	Mary Kporwodu	John Salifu	0266431339	Academic Board Member	Completed
	12.00 noon	Edmund Aalangdong	Regina Mensah	0208395948	College Secretary	Completed
25/01/2017	9.00 am	Mary Kporwodu	Samuel Acquah	0244719493	Maths Tutor	Completed
	9.00 am	Abdul-Karim Kadiri	Eunice Ama Forson	0546898505	Year 2 Student	Completed
	9.00 am	Edmund Aalangdong	Yeboah Grace	0208259677	Year 2 Student	Completed
	10.00 am	Edmund Aalangdong	Yeboah Victoria	0541055282	Year 2 Student	Completed
26/01/2017	10:00 AM	Edmund Aalangdong	Alhassan M. Nurudeen	02433241076	Tutor - Maths	Completed
	10.00 AM	Sharon Tao	Godfred Ato Donkor	0245784000	Deputy Finance Officer	Completed
	11.00 noon	Illness	Rev. Sister Agnes	n/a	Vice Principal Academic	Illness
	12.00 noon	No Show	Dorothy Efram	0203170207	HOD Voc Skills	No Show

INTERVIEW SCHEDULE - ACCRA COLLEGE OF EDUCATION

Scheduled Date for Interview/F GD	Time	Interviewer/Moderator	Name of Respondent	Phone Number	Position	Interview Status
08/11/2016	11.00 am	Mary Kporwodu	Focus Group Discussion with Year 2 Students	Not Applicable	Not Applicable	Completed
	11.00 am	Abdul-Ghafar Adams	Focus Group Discussion with Year 1 Students	Not Applicable	Not Applicable	Completed
	1.00 pm	Mary Kporwodu	Focus Group Discussion with College Leaders	Not Applicable	Not Applicable	Completed
	3.00 pm	Abdul-Ghafar Adams	Focus Group Discussion with Tutors Group 1	Not Applicable	Not Applicable	Completed
09/11/2016	9.00 am	Mary Kporwodu	Clement Afriyie Oppong	0244578568	College Leader - Secretary	Completed
	11.30 am	Mary Kporwodu	Kpewu Senyo Bright	0209591684	Student - Y2	Completed
	3.00 pm	Abdul-Ghafar Adams	Focus Group Discussion with Tutors Group 2	Not Applicable	Not Applicable	Completed

10/11/2016	1.00 pm	Edmund Aalangdong	Kofi Asante Aninkakwah	0243248752	College Leader - Finance	Completed
	2.30 pm	Abdul-Ghafar Adams	Cliford Lartey	0554491868	Student - Y1	Completed
	3.00 pm	Edmund Aalangdong	Godwin Banor	0240385621	Student - Y1	Completed
11/11/2016	9.00 am	Abdul-Ghafar Adams	Innocent Sraha	0246371471	Tutor - English	Completed
	9.30 am	Mary Kporwodu	Emilia Hayford	0244706063	Tutor - Science	Completed
	11.00 am	Abdul-Ghafar Adams	Mabel Ndor	0240759237	Tutor - English	Completed
	2.00 pm	Mary Kporwodu	Benjamin Tetteh	0244706765	Tutor - Maths	Completed
	2.30 pm	Mary Kporwodu	Destiny Agordo	0241153135	Student - Y1	Completed
	3.00 pm	Mary Kporwodu	Christina Bampo Henaku	0244865737	College Leader - Principal	Completed
14/11/2016	8.30 am	Mary Kporwodu	Mary M. Awuku-Larbi	0244578568	College Leader - HOD/Academic Board Member	Completed
	10.00 am	Abdul-Ghafar Adams	David Ankutse	0249133331	Tutor - Science	Completed
	11.30 am	Abdul-Ghafar Adams	Comfort Dovlo	0246902320	Tutor - English	Completed
	12.00 noon	Abdul-Ghafar Adams	Yussif Samira	0265526334	Student - Y2	Completed
	12.00 noon	Abdul-Ghafar Adams	Regina Yele	0241309769	Student - Y1	Completed
	12.00 noon	Abdul-Ghafar Adams	Awudey Priscilla	0549131546	Student - Y2	Completed
	12.00 noon	Sharon Tao	Quainoo Gideon	0243330709	Student - Y2	Completed
	12.00 noon	Mary Kporwodu	Anita Offie	0570988471	Student - Y1	Completed
	1.00 pm	Abdul-Karim Kadiri	Nyarko Julia	0273757838	Student - Y2	Completed
	2.00 pm	Sharon Tao	Kwame Sarfo Boadi	0201078866/0273302222	Science - Tutor	Completed
	3.30 pm	Abdul-Ghafar Adams	Amponsah Johnson Boahene	0271859490	Student - Y2	Completed
	3.00 pm	Abdul-Ghafar Adams	Comfort Kyei	0244708860	Tutor - Language	Completed
15/11/2016	3.00 pm	Abdul-Ghafar Adams	Eunice Kwansah	0543344605	Student - Y1	Completed
	3.30 pm	Mary Kporwodu	Dickson Kunatse	0243673876	Out going VP and QA officer	Completed
	4.00 pm	Abdul-Ghafar Adams	Rev. Sister Faustina	0208629405	Tutor - English	Completed
16/11/2016	10.00 am	Marjorie Takie	Elizabeth Cobblah	0244512449/0244847359	College Leader - Vice Principal	Completed
	11.30 am	Abdul-Ghafar Adams	Afia Aninwaa Mireku	0200248588	HOD Maths	Completed
17/11/2016	9.00 am	Abdul-Ghafar Adams	Zakaria Nartey	0248358333	Tutor - Maths	No-show
	10.00 am	Abdul-Ghafar Adams	Samuel	0244822481	Incoming QA officer	No-show

	11.00 am	Abdul-Ghafar Adams	Catherine Sowu	0249028692	Governing Council Member	Completed
--	----------	--------------------	----------------	------------	--------------------------	-----------

INTERVIEW SCHEDULE – AKATSI COLLEGE OF EDUCATION

Scheduled Date for Interview/FG D	Time	Interviewer/Moderator	Name of Respondent	Phone Number	Position	Interview Status
24/10/2016	5.00 pm	Mary Kporwodu	Focus Group Discussion with College Leaders	Not Applicable	Not Applicable	Complete
25/10/2016	3.00 pm	Mary Kporwodu	Focus Group Discussion with Tutors - Group 1	Not Applicable	Not Applicable	Complete
	3.00 pm	Abdul-Ghafar Adams	Focus Group Discussion with Tutors - Group 2	Not Applicable	Not Applicable	Complete
26/10/2016	3.00 pm	Sharon Tao	Focus Group Discussion with Year 1 Students	Not Applicable	Not Applicable	Complete
	3.00 pm	Mary Kporwodu	Focus Group Discussion with Year 2 Students	Not Applicable	Not Applicable	Complete
	4.00 pm	Sharon Tao	Esther Ahiadzgbe	Not Provided	Year 1 Student	Complete
27/10/2016	11.00 am	Mary Kporwodu	Mr. Mishiwo	0209029236	Quality Assurance Officer	Complete
	1.00 pm	Mary Kporwodu	Gato Christian	0264180513	Tutor - Science	Complete
	2.30 pm	Abdul-Ghafar Adams	Vicent N.K. Ayim	0204429927	Tutor - Social Studies	Complete
28/10/2016	9.00 am	Abdul-Ghafar Adams	Yahyra Amitor Kumata	0542343700	Tutor - Vocational	Complete
	10.00 am	Abdul-Ghafar Adams	I.G. Arcton Tetey	0242989367	Tutor - English	Complete
	10.00 am	Mary Kporwodu	Mr. Amekor Kobla	0208118560/0244431450	Vice Principal	Complete
	12.00 noon	Mary Kporwodu	Jinn Vida Eyrarn	0247656991	Year 2 Student	Complete
	1.30 pm	Mary Kporwodu	Tsewoo Mark Paul	0242116606	Tutor - English	Complete
31/10/2016	11.00 am	Marjorie Tackie	Buabasah Daniel Yao	0243085750	Tutor - Maths	Complete
	1.30 pm	Abdul-Ghafar Adams	Briget Akua Dorkeno	0503477575	Tutor - PDC	Complete
	2.00 pm	Abdul-Ghafar Adams	Atatsi Morphiah Yao	0240097187	Year 2 Student	Complete
	2.00 pm	Marjorie Tackie	Seckoawu Bless	0504745268	Year 2 Student	Complete
	3.00 pm	Abdul-Ghafar Adams	Ahiable Emmanuel	0549149812	Year 2 Student	Complete
	3.00 pm	Marjorie Tackie	Dzenor Constance	0544533758	Year 2 Student	Complete
	3.00 pm	Abdul-Karim Kadiri	Partick Hlorka	Not Provided	Year 1 Student	Complete

	4.00 pm	Abdul-Ghafar Adams	Edward Setordzi	Not Provided	Year 1 Student	Complete
01/11/2016	12.00 noon	Abdul-Ghafar Adams	Marshal A. Duhoh	0208857425	Tutor - Science	Complete
	1.00 pm	Marjorie Tackie	Bansah Ernest	0245592305	Year 2 Student	Complete
	1.30 pm	Marjorie Tackie	Ambrose Agbetorwoka	0206267262/0244144136	Tutor - TPC	Complete
	1.30 pm	Abdul-Ghafar Adams	Fevlo Ernest S.	0244805149	Tutor - Science	Complete
02/11/2016	11.00 am	Abdul-Ghafar Adams	John Englebert Seddoh	0208169226	Principal	Complete
	1.30 pm	Marjorie Tackie	Charity Buasilenu	Not Provided	Year 1 Student	Complete
	2.30 pm	Abdul-Ghafar Adams	Catherine Effisah	Not Provided	Year 1 Student	Complete

INTERVIEW SCHEDULE - BIMBILLA COLLEGE OF EDUCATION

Scheduled Date for Interview/FGD	Time	Interviewer/Moderator	Name of Respondent	Phone Number	Position	Interview Status
22/11/2016	10.00 am	Mary Kporwodu	Focus Group Discussion with Year 2 Students	Not Applicable	Not Applicable	Completed
	10.00 am	Abdul-Ghafar Adams	Focus Group Discussion with Year 1 Students	Not Applicable	Not Applicable	Completed
	12.40 pm	Mary Kporwodu	Focus Group Discussion with College Tutors	Not Applicable	Not Applicable	Completed
	1.30 pm	Abdul-Ghafar Adams	Nuhu Jawal Deen	0240768387	Year 2 Student	Completed
	3.15 pm	Mary Kporwodu	Yakubu Mariam	0547195563	Year 2 Student	Completed
	3.15 pm	Abdul-Karim Kadiri	Olayi Yvonne	0241392246	Year 2 Student	Completed
23/11/2016	7.30 am	Sharon Tao	Apandago James Assibi	0544222915	Year 2 Student	Completed
	8.30 am	Marie Kporwodu	Focus Group Discussion with College Leaders	Not Applicable	Not Applicable	Completed
	9.00 am	Sharon Tao	Sekino Cecilia	0242175090	Tutor - English	Completed
	10.00 am	Abdul-Karim Kadiri	Abubakari Bashiru	0208419955	Tutor - Maths	Completed
	12.45 pm	Mary Kporwodu	Abu Iddrisu	0243070656	Tutor - Maths	Completed

	2.00 pm	Mary Kporwodu	Solomon K. Atadze	0249325636	Governing Council	Completed
	3.00 pm	Sharon Tao	Adam Harruna	0240994086	Year 2 Student	Completed
	3.00 pm	Mary Kporwodu	Focus Group Discussion with College Tutors	Not Applicable	Not Applicable	Completed
24/11/2016	8.30 am	Sharon Tao	Abdulai E.D. Yakubu	0243701535	Finance Officer	Completed
	9.30 am	Mary Kporwodu	Jarik S. Faustina	0509866855	Year 2 Student	Completed
	10.00 am	Abdul-Karim Kadiri	Abubakar Wasila	0242288207	Tutor - Science	Completed
	10.00 am	Sharon Tao	Margaret Araba Boham	0241751534	College Secretary	Completed
	11.30 am	Mary Kporwodu	Adamu Bernice Akua	0548759114	Year 1 Student	Completed
	11.00 pm	Abdul-Karim Kadiri	Natogmah Abdul Fatawu	0244112439	Year 1 Student	Completed
	3.00 pm	Mary Kporwodu	Boahemaa Lydia	0505103138	Year 1 Student	Completed
25/11/2016	8.30 am	Mary Kporwodu	Jelinje Abdul-Gafaru	0540455539	Year 1 Student	Completed
	10.00 am	Sharon Tao	Abdulai Abu-Wemah	0244222124	Principal	Completed
28/11/2016	10.00 am	Sharon Tao	John K. Gobka	0246217778	Vice Principal	Completed
	11.00 am	Abdul-Karim Kadiri	J.A. Kisseih	0244185871	Academic Board Member	Completed
	12.00 pm	Sharon Tao	Tahidu Dahamani	0243365069	TPC	Completed
	1.00 pm	Abdul-Karim Kadiri	Issah Richard Bukari	0243874337	Tutor - Physical Science	Completed
	2.00 pm	Mary Kporwodu	Ibrahim Alhassan	0246920818	Tutor - English	Completed
29/11/2016	9.30 pm	Abdul-Karim Kadiri	Adam Abdulai	0246938099	Tutor - English	Completed
	1.00 pm	Mary Kporwodu	Thomas Lagan	0545743022	Tutor - Science	Completed
	2.00 pm	Mary Kporwodu	Adam F. Mustapha	0243615968	Tutor - English	Completed
	2.00 pm	Mary Kporwodu	Uyanjah Joel Ntesah	0553278783	Year 1 Student	Completed
	2.00 pm	Abdul-Karim Kadiri	Wumborti Hannah	0555119064	Year 1 Student	Completed

INTERVIEW SCHEDULE - BIMBILLA COLLEGE OF EDUCATION

Scheduled Date for Interview/FGD	Time	Interviewer/Moderator	Name of Respondent	Phone Number	Position	Interview Status
----------------------------------	------	-----------------------	--------------------	--------------	----------	------------------

12/12/2016	2.00 pm	Abdul-Ghafar Adams	Focus Group Discussion with Year 1 Students	Not Applicable	Not Applicable	Completed
	2.00 pm	Edmound Aalangdong	Focus Group Discussion with Year 2 Students	Not Applicable	Not Applicable	Completed
	3.00 pm	Mary Kporwodu	Focus Group Discussion with College Tutors - Group 1	Not Applicable	Not Applicable	Completed
13/12/2016	9.00 am	Mary Kporwodu	Focus Group Discussion with College Leaders	Not Applicable	Not Applicable	Completed
	9.00 am	Edmound Aalangdong	Adeabsah Dennis	0241854541	Year 2 Student	Completed
	9.00 am	Abdul-Ghafar Adams	Ahmed Tijani Sulemana	0207259013	Tutor - Physical Education	Completed
	9.45 am	Abdul-Karim Kadiri	Samuel Frimpong	0208245482	Tutor - Language	Completed
	10.00 am	Abdul-Ghafar Adams	Opoku Boahen	0242020919	Tutor - Education	Completed
	11.00 am	Edmound Aalangdong	Asare Richmond	0542915441	Year 1 Student	Completed
	11.30 am	Edmound Aalangdong	Emmanuel Akolgo	0208245488	Vice Principal	Completed
	11.45 am	Abdul-Karim Kadiri	Adu Joseph	0243451333	Tutor - Education	Completed
	12.00 am	Sharon Tao	Wayo Zakaria	0209070781	Principal	
	12.30 am	Abdul-Ghafar Adams	Emmanuel Gyan	0208469195	Finance/Accounts Officer	Completed
	1.00 pm	Mary Kporwodu	Focus Group Discussion with College Tutors - Group 2	Not Applicable	Not Applicable	Completed
	1.00 pm	Edmound Aalangdong	Evans Nyarko	0206467451	Secretary	Completed
	2.00 pm	Abdul-Ghafar Adams	Asantewaa Jeniffer	0245754744	Year 1 Student	Completed
	2.00 pm	Abdul-Karim Kadiri	Arthur Patience	0540590764	Year 1 Student	Completed
	2.30 pm	Abdul-Ghafar Adams	Acheampong Akwasi	0554630533	Year 2 Student	Completed
	2.30 pm	Sharon Tao	Freeman Akama	0208197900	Assessment Office	Completed
	2.30 pm	Edmound Aalangdong	Tiechog Jerome	0243836614	HOD - English	Completed
	2.30 pm	Mary Kporwodu	Thomas Sarpong	0249454668	Quality Assurance Officer	Completed
2.30 pm	Abdul-Karim Kadiri	Bilito Alexander	0546538225	Year 2 Student	Completed	
14/12/2016	8.00 am	Mary Kporwodu	Kennedy Owusu	0246052665	Tutor - Maths	Completed
	8.30 am	Abdul-Ghafar Adams	Johnson Anane Kofi	0246160219	Tutor	Completed
	8.30 am	Edmound Aalangdong	Garibah Dominc	0205319666	Tutor - P.E. and HIV/AIDS	Completed
	8.45 am	Sharon Tao	Safiatu Abass	0506899898	Year 2 Student	Completed
	9.00 am	Abdul-Karim Kadiri	Adu David Tuffor	0202639904	Tutor - Ghanaian Language	Completed
	9.45 am	Mary Kporwodu	Prince Duku	0206546029	Tutor - Science	Completed

15/12/2016	10.00 am	Abdul-Ghafar Adams	Ishaq Mariam	0269921609	Year 2 Student	Completed
	10.15 am	Abdul-Karim Kadiri	Adja Yeboah	0244055365	Tutor - Science	Completed
	12.00 pm	Mary Kporwodu	Doade Moses	0547911938	Year 1 Student	Completed
	12.00 pm	Abdul-Ghafar Adams	Frimpong Prince	0542091657	Year 1 Student	Completed
	12.00 pm	Edmound Aalangdong	Oppong Agyeiwaa Leticia	0548085653	Year 2 Student	Completed
	8.30am	Abdul-Karim Kadiri	Dominc Mensah Boateng	0244784397	Tutor - Creative Art	Completed
	9.00am	Mary Kporwodu	Boye Sampson	020265405	Tutor - Int Science	Completed
	9.00am	Abdul-Ghafar Adams	Yeboah Mavis	0208582467	Year 1 Student	Completed
	9.30am	Edmound Aalangdong	Sena Hajara	0540388986	Year 2 Student	Completed
	9.30am	Sharon Tao	Bashiru Amidu	0206272162	Tutor- PDC	Completed

ANNEX C – Focus Group/Interview questions

Focus groups with CoE Leaders

- 1) NAB has developed standards for all colleges to meet in order to be considered tertiary institutions. Just to clarify, have you all been oriented to these standards? (If yes, continue. If no, explain that the content in the T-TEL leadership training is based on the NAB standards).
- 2) What do you think of the NAB standards? Are they good? Bad? Too many? Not enough?
- 3) Do you think the NAB standards will improve the teaching and learning that happens here at Accra? If yes, how? If no, why?
- 4) As the college leaders responsible for the implementation of NAB standards to become tertiary institutions, what are some of the constraints that you have been experiencing?
- 5) One requirement to being a tertiary institution is to have a College Improvement Plan and meet targets within it. What are some of the constraints that you experience in meeting these targets?
- 6) Another requirement is to have a defined set of management policies with gender sensitive criteria. What are some of the constraints that you experience in developing and implementing these policies?
- 7) You've done some leadership training with T-TEL in the past year. In your opinion, do you think this training as strengthened your ability to lead and manage this college? If yes, how? If no, why?
- 8) Do you think that changing how you manage this college will affect how your students' will teach when they become beginning teachers? If yes, how? If no, why?
- 9) Your tutors have also done a lot of training with T-TEL. In your opinion, do you think this training has strengthened their ability to teach? If yes, how? If no, why?
- 10) Do you think that changing how tutors teach will affect how your students' will teach when they become beginning teachers? If yes, how? If no, why?
- 11) Have you seen any differences in your students' performance or attitudes over the past year because of changes prompted by T-TEL? If so, how?

Follow-up interview with CoE leaders:

- 1) During the focus group I asked about NAB standards that colleges have to meet before becoming tertiary institutions. Just to clarify, are you familiar with these standards? Do you agree with them? If yes/no, why?
- 2) Do you think the NAB standards will improve the teaching and learning here at Accra? If yes, how? If no, why?
- 3) In your specific position/role at this college, are there any particular challenges that you experience in implementing these NAB standards?
- 4) Are you familiar with the targets in your College Improvement Plan? Which ones do you think will be the most difficult to achieve? Why?
- 5) Are you familiar with the set of management policies that your college is developing? Which ones do you think will be the most difficult to implement? Why?
- 6) You've done some leadership training with T-TEL. In your opinion, how has this training helped or hindered your work?

- 7) In the past year, have you seen a change in the way this college is managed and run? If yes, how? If no, why not?
- 8) Do you think that changing the way the college is managed will affect how your students teach when they become beginning teachers? If yes, why and how? If no, why?
- 9) Your tutors have also done a lot of training with T-TEL. In your opinion, do you think this training as strengthened their ability to teach? If yes, why and how? If no, why?
- 10) Do you think that changing how tutors teach will affect how your students teach when they become beginning teachers? If yes, why and how? If no, why?
- 11) Have you seen any differences in your students' performance or attitudes over the past year because of changes prompted by T-TEL? If so, how?

Focus groups with Tutors

- 1) There is a lot of discussion about tutors using 'student centred pedagogy'. In your opinion, do you think student-centred pedagogy is effective in helping students learn? Is it effective in helping students pass exams? Why or why not?
- 2) What are some of the constraints or challenges that tutors experience in implementing student-centred pedagogy?
- 3) There is also a lot of expectation for tutors to use 'gender sensitive pedagogy'. Do you think tutors have a good understanding of what this is and how to apply it?
- 4) Do you think gender sensitive pedagogy is effective in helping students learn and pass exams? Why or why not?
- 5) What are some of the constraints or challenges that tutors experience in implementing gender sensitive pedagogy?
- 6) There have been a lot of T-TEL tutor professional development sessions. In your opinion, do you think these sessions have strengthened your ability to teach? If yes, how? If no, why?
- 7) Do you think that changing how you teach will affect how your students' will teach when they become beginning teachers? If yes, how? If no, why?
- 8) Your college leaders have also done some training with T-TEL. In your opinion, do you think this training has strengthened their ability to lead and manage this college? If yes, how? If no, why?
- 9) Are you aware that T-TEL is supporting UCC to review and revise the DBE curriculum? Do you think revising the curriculum will improve the teaching and learning that happens here at Accra? If yes, how? If no, why?
- 10) Have you seen any differences in your students' performance or attitudes over the past year because of changes prompted by T-TEL? If so, how?
- 11) In your opinion, what percentage of the students' you teach will go on to be strong, competent teachers? Why do you think this?

Follow-up interviews with Tutors

- 1) During the focus group I asked about student centred teaching methods. In your opinion, do you think these methods are effective in helping students learn? Do they help students pass exams? Do you think these two things are different?
- 2) Have you tried to implement student centred methods? If so, are there any particular challenges that you have experienced?

- 3) Have you had any successes in implementing student centred methods? If so, why were these successful?
- 4) During the focus group I also asked about gender sensitive teaching methods. In your honest opinion, do you feel that you have a good understanding of what this is and how to apply it? (it is okay if you don't)
- 5) If you have tried implementing gender sensitive methods, are there any challenges that you have experienced?
- 6) Have you had any successes in implementing gender sensitive methods? If so, how was it successful?
- 7) Now I'd like to ask about your opinions on the tutor professional development sessions. In your opinion, do you think the PD sessions help or hinder your work? Why?
- 8) Have you been able to attend many of the TPD sessions? If so, about how many last year?
- 9) What sort of challenges have you had with attending PDS? What has prevented you from attending?
- 10) Have you kept a learning journal? If so, has it been a help or a hindrance to your work? (Ask to see it)
- 11) Do you think TPD sessions have changed the way tutors at this college teach? If so, how? If not, why?
- 12) Do you think that changing how tutors teach will affect how students will teach when they become beginning teachers? If yes, how? If no, why?
- 13) In the past year, have you seen any change in the way this college is managed and run? If yes, how? If no, why not?
- 14) Do you think that changing the way the college is managed will affect your students' performance when they graduate and become beginning teachers? If yes, how? If no, why?
- 15) Have you seen any differences in your students' performance or attitudes over the past year because of changes prompted by T-TEL? If so, how?

Interview with Mentors

- 1) There is a lot of discussion about teachers using 'child centred teaching methods' or 'practical methods'. To what extent do you think student centred methods are effective in helping pupils learn?
- 2) Have you tried to implement child centred or practical methods? If so, what have you tried?
- 3) Were there any challenges that you experienced in using these methods?
- 4) Do you think it's important for your teaching practice mentees to use child centred or practical methods? If so, how have you supported them to do so?
- 5) There is also a lot of discussion about teachers using 'gender sensitive teaching methods'. Are you familiar with this term? (If not, it is a way to teach that encourages girls to participate, lead and achieve in class).
- 6) Have you ever tried to apply gender sensitive methods in your class? If so, what have you tried?
- 7) Were there any challenges that you experienced in using these methods?
- 8) Do you think it's important for your teaching practice mentees to use gender sensitive methods? If so, how have you supported them to do so?

- 9) Have you ever seen a mentee try to use a teaching technique that you weren't familiar with? If so, what was it and what did you think of it?
- 10) After graduating from the college of education, what challenges do you think your mentee will experience when he/she is posted to a basic school next year?
- 11) Have you had any training on how to be a mentor? If so, what was the training about? What did you learn?
- 12) What specific activities have you done with your mentee since they started their teaching practice this year?
- 13) Do you provide any specific or extra support for female mentees? If so, how?
- 14) What kind of support does your lead mentor give you during teaching practice?
- 15) What kind of support does your lead mentor give your mentee?
- 16) What kind of support does the college teaching practice coordinator give you during teaching practice?
- 17) What kind of support does the TPC give your mentee?
- 18) Now I'd like to ask a few more questions about you. Did you choose to be a teaching practice mentor or was it a position that was assigned to you?
- 19) How long have you been a teaching practice mentor?
- 20) Does the role of teaching practice mentor afford you any extra prestige or respect?
- 21) Does the role of teaching practice mentor afford you any extra benefits?
- 22) What are the things that you find most challenging?
- 23) What are the things you most enjoy about this role?

Interview with Year 3 Mentees

- 1) There is a lot of discussion about teachers using 'child centred teaching methods' or 'practical methods'. To what extent do you think student centred methods are effective in helping pupils learn?
- 2) Have you tried to implement child centred or practical methods? If so, what have you tried?
- 3) Were there any challenges that you experienced in using these methods?
- 4) In your opinion, do you feel like you've been adequately taught how to apply child centred or practical methods during your methodology courses?
- 5) Do you think your college tutors have been using child centred or practical methods when they teach? If so, how?
- 6) Do you think your teaching practice mentor uses child centred or practical methods? If so, how? If not, why do you think that is?
- 7) There is also a lot of discussion about teachers using 'gender sensitive teaching methods'. Are you familiar with this term? (If not, it is a way to teach that encourages girls to participate, lead and achieve in class).
- 8) To what extent do you feel like you've been taught about how to apply gender sensitive teaching methods at college?
- 9) Have you ever tried to apply gender sensitive methods in your class? If so, what have you tried?

- 10) Were there any challenges that you experienced in using these methods?
- 11) Do you think your college tutors have been using gender sensitive methods when they teach? If so, how?
- 12) Do you think your teaching practice mentor uses gender sensitive methods? If so, how? If not, why?
- 13) Your tutors have been doing professional development sessions with T-TEL. To what extent have you seen changes in the way your tutors teach over the past year?
- 14) Have you been trying to use any of their techniques during your teaching practice? If yes, which ones and why?
- 15) If yes, what has your mentor thought of them?
- 16) Your college leaders have also done training with T-TEL. To what extent have you seen changes in the way they lead and manage your college?
- 17) Now I'd like to ask a few more questions about your teaching practice. To what extent does your mentor seem happy and enthusiastic to be your mentor?
- 18) What specific activities has your mentor done with you since you've started your teaching practice?
- 19) Has your mentor provided any specific or extra support for female mentees? If so, how?
- 20) How supportive has your lead mentor been? What sort of interaction have you had with him/her?
- 21) How supportive has your teaching practice coordinator been? What sort of interaction have you had with him/her?
- 22) What sort of challenges do you think you will face when you are posted as a beginning teacher next year?

Focus group with Year 1 Student Teachers

- 1) So just to confirm, this is your first semester at this college? Did you just graduate from Senior High School (SHS)?
- 2) How are you finding Accra? Is very different from SHS? If so, how? If not, why?
- 3) Do you think the principal and the way the college is run is very different from SHS? If so, how? If not, why?
- 4) Do you think the tutors teach differently here than compared to your SHS teachers? If so, how? If not, why?
- 5) **If tutors/SHS teachers lecture:** As a student, do you like this lecturing method? Do you think it helps you learn? Do you think it helps you pass exams?
- 6) **If tutors/SHS teachers teach interactively:** As a student, do you like this interactive method? Do you think it helps you learn? Do you think it helps you pass exams?
- 7) Do you think lecturing/interactive teaching methods would be effective in helping pupils at the basic level learn? Why or why not?
- 8) Do you think you will use lecturing or interactive teaching methods when you become a teacher? Why?
- 9) In your opinion, do you think your tutors here treat female students better, worse or equal to male students?
- 10) Do tutors encourage females to speak, ask questions, participate, take leadership roles? If so, how? If not, why? (You can let students know that these are called gender sensitive teaching methods)

- 11) Did you think your SHS teachers encouraged female students? If so, how? If not, why?
- 12) Do you think these types of gender sensitive teaching methods would be effective in helping pupils at the basic level learn? Why or why not?
- 13) Do you think it will be easy or difficult to use gender sensitive teaching methods when you become a beginning teacher? Why?
- 14) Just to wrap up, what do you see yourself doing after finishing three years at this college? How many of you plan to become basic school teachers? Do some of you want to go on to further studies? Or teach at a different level?

Follow-up interview with Year 1 Student Teachers

- 1) During the focus group I asked students how they thought Accra was different from SHS? Do you think the way the college is run is very different from how your secondary school was run? If so, how? If not, why?
- 2) Is the principal's leadership style similar or different to your SHS head teacher's leadership style?
- 3) Do you think the tutors here teach differently than compared to your SHS teachers? If so, how? If not, why?
- 4) **If tutors/SHS teachers lecture:** As a student, do you like this lecturing method? Do you think it helps you learn? Do you think it helps you pass exams?
- 5) **If tutors/SHS teachers teach interactively:** As a student, do you like this interactive method? Do you think it helps you learn? Do you think it helps you pass exams?
- 6) Do you think lecturing/interactive teaching methods would be effective in helping pupils at the basic level learn? Why or why not?
- 7) Do you think you will use lecturing or interactive teaching methods when you become a teacher? Why?
- 8) In your opinion, do you think your tutors here treat female students better, worse or equal to male students?
- 9) Do tutors encourage females to speak, ask questions, participate, take leadership roles? If so, how? If not, why? (You can let students know that these are called gender sensitive teaching methods)
- 10) Did you think your SHS teachers encouraged female students? If so, how? If not, why?
- 11) Do you think these types of gender sensitive teaching methods would be effective in helping pupils at the basic level learn? Why or why not?
- 12) Do you think it will be easy or difficult to use gender sensitive teaching methods when you become a beginning teacher? Why?
- 13) Just to wrap up, do you see yourself finishing three years at this college? Was teaching your first choice of profession or do you have other aspirations that you'd like to pursue?

Focus Groups with Year 2 Student Teachers

- 1) There is a lot of discussion about teachers using 'student centred teaching methods'. In your opinion, do you think student centred teaching methods are effective in helping pupils learn? Why or why not?
- 2) Do you think student centred teaching methods are effective in helping pupils pass exams? Why or why not?

- 3) In your opinion, do you feel like you've been adequately taught how to apply student centred teaching methods?
- 4) What are some of the challenges that you think you might experience when trying to use student centred methods when you're teaching in a basic school?
- 5) Do you think any of your tutors have been using student centred teaching methods in this college? If so, how?
- 6) Do you think these methods are effective in helping student teachers learn and pass their exams? Why or why not?
- 7) There is also a lot of discussion about teachers using 'gender sensitive teaching methods'. In your opinion, do you think gender sensitive methods are effective in helping pupils learn at the basic level? Why or why not?
- 8) In your opinion, do you feel like you've been adequately taught about this and how to apply gender sensitive teaching methods?
- 9) Do you think any of your tutors have been using gender sensitive teaching methods in this college? If so, how?
- 10) Do you think these methods are effective in helping student teachers learn and pass their exams? Why or why not?
- 11) Your tutors have been doing professional development sessions with T-TEL. In your opinion, do you think these sessions have changed how they teach? If yes, how? If no, why?
- 12) Do you think you'll use any of their techniques when you are teaching in a basic school? If yes, which ones and why? If no, why?
- 13) Your college leaders have also done training with T-TEL. In your opinion, do you think this training has changed the way they lead and manage this college? If yes, how? If no, why?
- 14) Just to wrap up, what do you see yourself doing after finishing three years at this college? How many of you plan to become basic school teachers? Do some of you want to go on to further studies? Or teach at a different level?

Follow-up interview with Year 2 Student Teachers

- 1) During the focus group I asked students their opinion on student-centred teaching methods. In your opinion, do you think student centred methods are effective in helping pupils learn? Are they effective in helping pupils pass exams? Do you think these two things are different?
- 2) Have you ever tried practicing student centred teaching methods? If so, are there any challenges that you experienced?
- 3) What are some of the challenges that you think you might experience when trying to use student centred methods when you're teaching in a basic school?
- 4) Do you think any of your tutors have been using student centred teaching methods in this college? If so, how?
- 5) Do you think these methods are effective in helping student teachers learn and pass their exams? Why or why not?
- 6) During the focus group I also asked about gender sensitive teaching methods. In your honest opinion, do you feel that you have a good understanding of what this is and how to apply it? (it is okay if you don't)
- 7) Do you think gender sensitive teaching methods are effective in helping pupils learn at the basic level? Why/why not?
- 8) What are some of the challenges that you think you might experience when trying to use gender sensitive teaching methods when you're teaching at a basic school?
- 9) Do you think any of your tutors have been using gender sensitive teaching methods in this college? If so, how?

- 10) Do you think these methods are effective in helping student teachers learn and pass their exams? Why or why not
- 11) Your tutors have been doing professional development sessions with T-TEL. In your opinion, do you think these sessions have changed how they teach? If yes, how? If no, why?
- 12) Do you think you'll use any of their techniques when you are deployed as a beginning teachers? If yes, which ones and why? If no, why?
- 13) Your college leaders have also done training with T-TEL. In your opinion, do you think this training has changed the way they lead and manage this college? If yes, how? If no, why?
- 14) Just to wrap up, what do you see yourself doing after you graduate? Are you going to become a basic school teacher? Will you go on to further studies? Do you have any other plans?