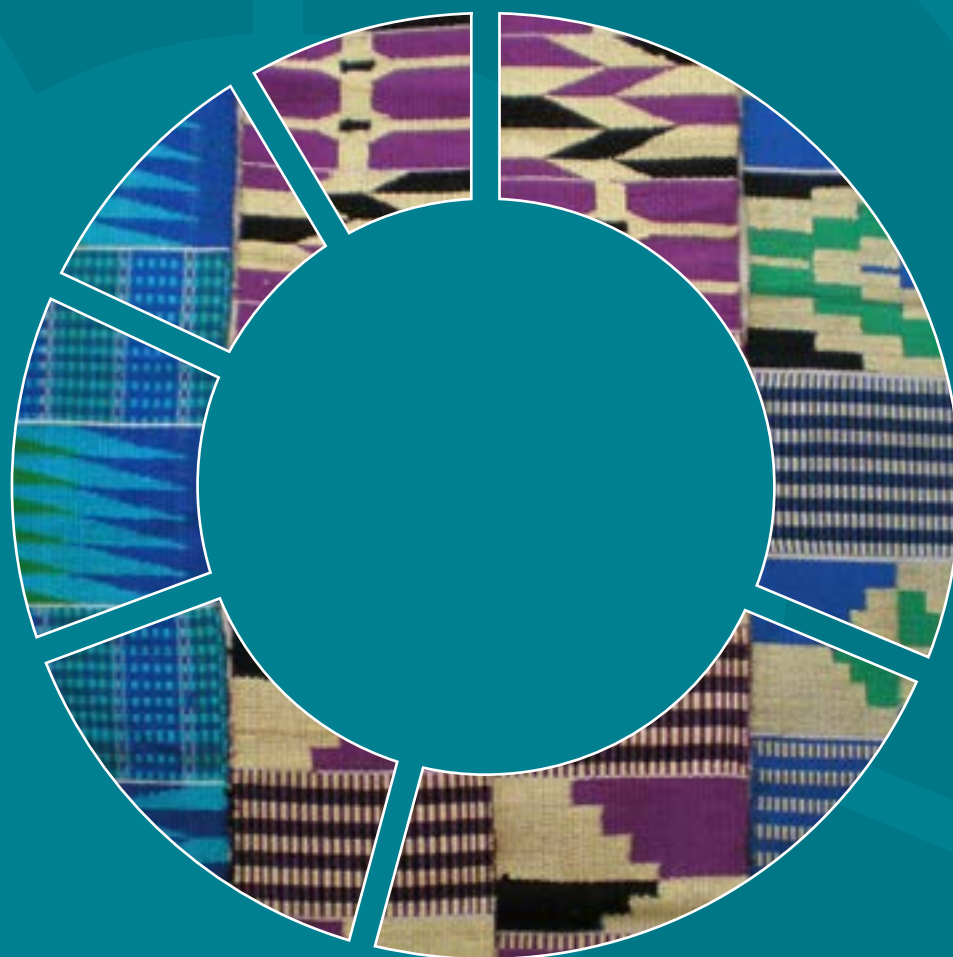


Group Work

PROFESSIONAL DEVELOPMENT GUIDE FOR **TUTORS**





T-TEL Professional Development Programme

Theme 4: Group Work Professional Development Guide for Tutors



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All sources are detailed in the acknowledgements sections.

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Tutor Professional Development

About These Resources

Welcome to the *Transforming Teacher Education and Learning* Professional Development Guide for Tutors.

Transforming Teacher Education and Learning (T-TEL) is a Government of Ghana programme seeking to improve learning outcomes - for tutors in Colleges of Education, (student) teachers, and above all for pupils in school. To that end, we are creating a set of professional development resources for use by you, the tutor, to enhance college-based and school-based teacher education.

The present set of resources are organised into twelve themes focusing on pedagogy and effective college classroom practice, such as creative approaches, questioning, group work, Assessment for Learning, Leadership for Learning, enquiry-based learning, gender, inclusion, and many more (see table below). The themes have been chosen because of their relevance to improving learning outcomes through the use of active pedagogies. In each of the twelve themes there are a number of different teaching strategies (or teaching approaches). For instance, the teaching strategies in Theme 1 Creative Approaches include songs, role-play, games, and storytelling.

For each of the teaching strategies within a theme, the resources provide

- an introduction to the teaching strategy (including a group activity that you can do);
- three 'Example - Plan and Practice - Teach - Reflect' (EPTR) sequences; and
- activity plan templates (at the end of the book).

Within each 'EPTR' sequence there is an **example** for the use of the strategy (e.g. an example for using songs in English), followed by a section to support you in **planning** an activity using the strategy (e.g. planning the use of modelling in mathematics, or planning the use of role-play to illustrate an idea in science). You can then try out your activity (by **teaching** it to your students) after which you will find a number of activities for **reflection**, prompting you to think about your experience. For example: *Did the song achieve the intended learning outcomes? Did everybody (including female and male students) participate in the activity? What can I do to involve learners with special needs?*

Because each teaching strategy (such as types of group work) has many different aspects (such as same-task group work, different-tasks group work, and carousel-type group work) we have provided **three EPTR sequences**. The examples provided in these are usually in English, mathematics, and science, while the **Plan and Practise Together** section draws on examples across the college syllabus, covering all subjects.

The materials are designed so that they can be used with peer facilitation. In the T-TEL model, the tutor professional development programme is facilitated by so-called professional development coordinators. In addition to the PD Guide for Tutors, a Handbook for Professional Development Coordinators is available.

For each theme, the teaching strategies are presented together in a single book (in print), but they are also available online on the T-TEL website in various formats (such as HTML, ePub, PDF, see oer.t-tel.org) alongside supporting information. All T-TEL resources are Open Educational Resources (OER), available under a Creative Commons Attribution Share-Alike licence. This means that you are free to use and adapt them as long as you attribute T-TEL and retain the same licence. In fact, we have used that same process to develop these materials from other OER that are available, such as the OER4Schools programme (www.oer4schools.org), the TESSA Ghana materials (www.tessafrica.net), and even materials originally developed for India (www.tess-india.edu.in).

Theme number	Theme
1	Creative Approaches
2	Questioning
3	Talk for Learning
4	Group work
5	Leadership for Learning
6	Finding, creating, and using teaching and learning materials
7	Assessment for Learning
8	Gender and inclusion
9	Project work and investigation
10	Teaching reading, writing, and numeracy across the curriculum
11	Using digital and mobile technology for effective teaching and learning
12	The tutor as a researcher

Figure 1. The themes covered in the professional development programme.

Key Elements of the Programme

There are a number of ideas that cut across the PD programme that are worth drawing out.

The Plan - Teach - Reflect cycle. The Plan-Teach-Reflect cycle is built into our materials as part of our sequences of Example - Plan and Practise Together - Teach - Reflect Together.



The Reflect Together section, while presented logically at the end of the teaching strategy, takes place at the start of the next session. The reflection should bring up some interesting and perhaps even surprising issues. However, do not be despondent if the reflection does not always go well: continue with it! Being a reflective practitioner takes time to develop, and this will all fall into place.

The Activity Plan. Each teaching strategy closes with a few activity plans, which are used during the sessions to plan activities. Perhaps some participants do not want to “spoil” their books, by writing in them. However, your own additions are important, and part of your learning journey. They are more important than what is written in the books, so just write them straight into your books. Remember also that the activity plan has a section for post-lesson observation. Please fill this in, and use it during the reflection.

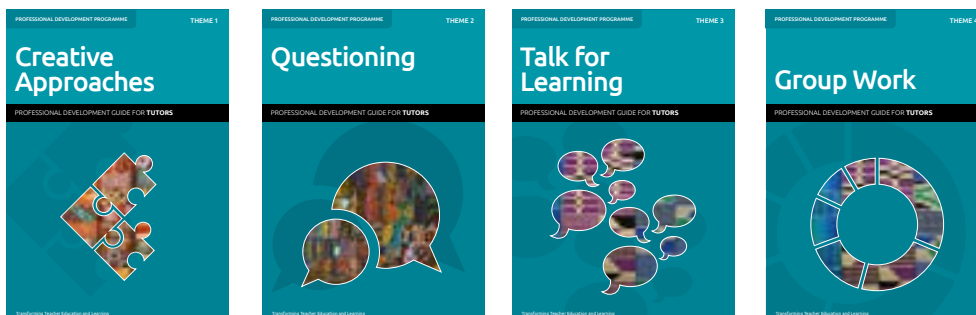
The Learning Journal. The learning journal is an important tool, and we encourage all participants to keep one. It allows you to make notes, so that you can look back at earlier sessions, to see how your thinking and practice have developed.

Digital copies of the materials. Also note that digital copies of all materials are available at <http://oer.t-tel.org>.

The T-TEL Materials and Their Uses

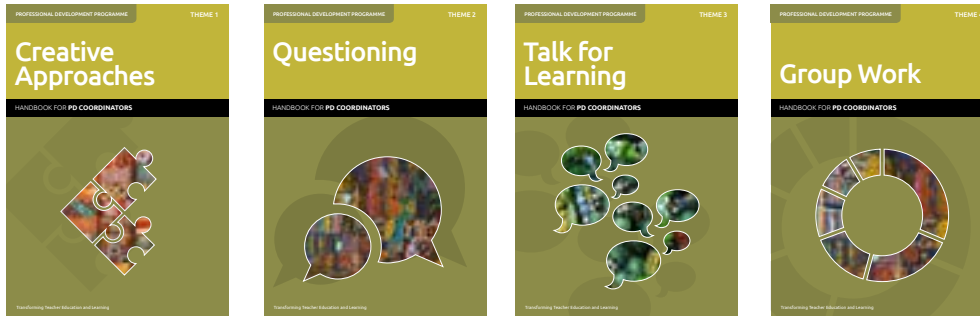
The PD Guide for Tutors

The PD Guide for Tutors are materials for tutors in College of Education, to explore interactive approaches to subject teaching.



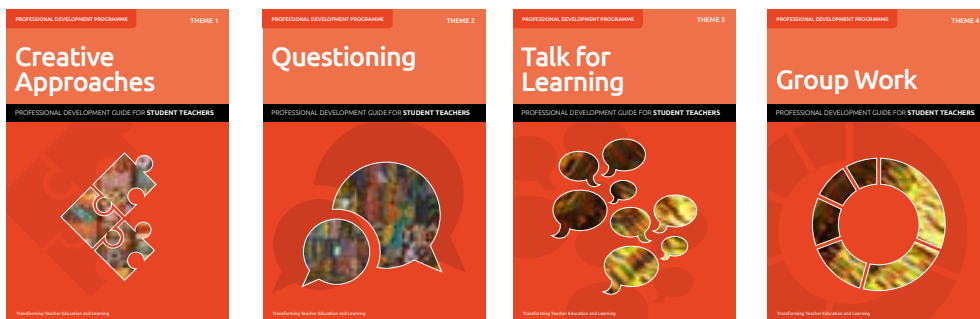
The Handbook for PDCs

The PD Guide for Tutors is accompanied by the Handbook for PDCs, which provides further details on running professional development sessions.



The Student Teacher versions, Methodology Lessons, and Teaching Practice

In addition to the PD Guide for Tutors, there is a student teacher version available: The PD Guide for Student Teachers.



The PD Guide for Student Teachers follows the PD Guide for Tutors very closely. However, while the PD Guide for Tutors is aimed at tutors teaching student teachers in college, the PD Guide for Student Teachers is aimed at student teachers teaching pupils in school (primary or JHS). The PD Guide for Student Teachers may be of interest to methodology tutors, and could easily be used as a textbook for practice-oriented methodology lessons. You may want to make student teachers aware that these versions are available digitally.

	Participants in professional development sessions	Focus	Professional development sessions led by
PD Guide for Tutors	Tutors	Teaching at college (in particular subject teaching)	PDCs
PD Guide for Student Teachers	Student Teachers	Teaching in primary or JHS	Tutors, school-based mentors, other teachers (peer facilitation)
Teaching Practice Materials	Student Teachers	Teaching Practice in college (Years 1-3)	Tutors and mentors

Figure 2. Overview of materials relating to tutor professional development, student teacher education, and teaching practice.

Also note that a separate series of books is available focusing on teaching practice. They focus on similar pedagogical approaches, but approach these in the setting of the teaching practice within colleges.



The Student Teacher Versions and Local Teachers

The PD Guide for Student Teachers could also be used for self-study by (groups of) in-service teachers. Research shows that such extended professional development programmes are an effective means of achieving improved learning outcomes, and we encourage you to review the additional materials available, detailing the elements of the professional development programme itself. If you happen to be reading these materials as a teacher, already working in a school, we hope that you will find these materials useful. We do use the terms 'student teacher' and 'teacher' interchangeably - please simply substitute 'teacher' for 'student teacher' - and the materials should make sense to you.

If no college-wide or school-wide programme is available to you, we recommend that, at the very least, you work together with other (student)



teachers in self-organised study groups. There is good evidence for the importance of learning together in 'communities of practice', and you will be able to gain the most from the materials in that way.

Introduction to Theme 4

Group Work

In many everyday situations people work alongside colleagues, speak and listen to friends, and see what others do and how they do it. This is how we all learn. As we talk to others, we discover new ideas and information. If activities in the college classrooms are centred on the tutor, then the student teachers do not get enough time to be active: they do not have the opportunity to try, to demonstrate their learning or to ask questions. In such situations, some students may only give short answers and some may say nothing at all. In large classes, the situation is even worse, with only a small proportion of students saying anything at all. One reason for doing group work in the classroom is to give students more opportunities to participate.

Working in groups and pairs is about learning collaboratively. Collaborative learning means two or more student teachers working together to achieve a shared goal. This includes peer collaboration (for groups of two student teachers), and small group work (for smaller groups). It requires you to interact and talk about what you are thinking with one another in a specific learning context. Questions can be posed, ideas can be challenged and misunderstandings can be heard and investigated.

Why Use Group Work in Your Teaching?

It is clear that in order to maximise the opportunities to learn in your classroom, student teachers should not just learn on their own, but engage in collaborative learning and support one another. Research shows that group work is one of the most effective ways of increasing learning outcomes. For example, the Education Endowment Foundation rates 'collaborative learning' (including group and pair work) to have one of the highest impacts for the lowest cost, based on extensive research evidence. Slavin and colleagues (2003) reviewed a great deal of evidence and concluded that "*co-operative learning is one of the greatest success stories in the history of modern research*" (p. 177). The four main reasons (William, 2011) for this success seem to be:

1. **Motivation:** Students help one another learn because it is in their own interests to do so. This has the effect of increasing all-round effort, leading to more success in learning and therefore more motivation to work on challenging ideas.
2. **Social cohesion:** Students help their peers because they are part of the same group and it matters to them that the group succeeds.
3. **Personalisation:** If a particular student is having difficulties, it is likely that there will be someone in the group who can help out. Where groups are well-structured it is not always the same people helping or receiving help.

- 4. Cognitive elaboration:** Those who contribute to discussions are forced to think through the ideas and clarify them for themselves and others.

If students are to get the help they need, especially in a large class, they must be available to help one another. Student teachers teaching one another can be surprisingly effective: in one study students learned almost as much when peer-tutored as they did from one-to-one instruction from their teacher, possibly because they feel less intimidated asking questions of a peer (Schacter, 2000).



Figure 3. Collaboration among students

Group Work and Large Classes

Using group work in large classes is one of the biggest concerns teachers have. Can it actually work? Often group work is seen as something that is not possible in large classes, especially in classes with very mixed attainments. Group work works well for all the learners as the evidence-based research indicates this will allow them to be a more active and effective learner. However, it can be challenging in a large class at the beginning. Some skills could help teachers to involve all students in a large class including: group formation, managing group work, different types of group work, reporting back from group work, using group work in the multilingual classroom. These are discussed in detail in this theme.

Many would say that the only choice in those classes is to lecture. However, when tutors and teachers actually try group work, even with young children, the experience is different:

The students are not in ability groups, but they are mixed. Those who are fine [fast], and those who are slower. For me, group work is helping me so much [in supporting all students, compared to] lecturing. Group work is really working for me. (*Aggie, Grade 3 teacher in Zambia, a participant in OER4Schools programme.*)

In short, group work works well because children are able to learn together and support each other. This makes group work suitable for:

- large classes;
- mixed ability;
- multigrade classes;
- multi-language classes.

Group work means that children can tailor their own learning, for instance choosing their own language, with peer support for quick translations and language clarifications. Group work can be used flexibly, to ensure that everybody is involved. You can vary group size, responsibilities within the group, and of course what activities are done. Motivated by co-operation and collaboration, student teachers discover where their unique strengths are and where those of others are - as well as discovering where they need to focus their learning and where they can help each other.

Important related aspects are “meta-cognition and self-regulation” approaches (“learning to learn”), rated by the Education Endowment Foundation to have the highest impacts for lowest cost, based on extensive research evidence. These approaches help learners think about their own learning more explicitly, and include learners setting goals, and evaluating their own learning progress. Such approaches are particularly useful in group work.

Group work is related to our previous themes: Creative Approaches, Questioning, and Talk for Learning play an important role in all stages of group work. This includes whole class dialogue to initiate group work, but also students talking with each other – and questioning each other – during group work. You might like to review the previous theme, and see how the classroom ideas presented there are relevant to group work.



Figure 4. Group work

Theme Overview: Group Work

The strategies discussed in this theme aim to give you a lot of ideas to develop and use group work effectively in your college classroom. They are:

- T4-1. Group formation
- T4-2. Managing group work
- T4-3. Different types of group work
- T4-4. Reporting back from group work
- T4-5. Using group work in the multilingual classroom

Working Across the Curriculum

The present material is suitable for tutors from all departments in Colleges of Education. Currently, Ghanaian Colleges of Education are divided into the following departments (with some of the subjects in brackets):

1. Language (English, GHL, French)
2. Mathematics and ICT
3. Sciences (Physics, Chemistry, Biology, Physical Education)
4. Social Sciences (Social Studies, Religious and Moral Education, Music & Dance and HIV/AIDS)
5. Arts & Vocational studies (Arts, Catering, Sewing, Bead making and Leather work)
6. Educational Studies

Each introduction to a teaching strategy is followed by three Example-Plan-Teach-Reflection sequences (Strands A, B, C), that focus on different aspects of the teaching strategy. Each section is suitable for all tutors, and you should select one according to your preferences. You will of course still find some examples for English, mathematics and science, among many examples from other subjects.

Focus on Gender



Given the many benefits of group work, it is extremely important to be gender responsive when applying group work strategies in order to ensure that all students benefit, especially female students. As discussed in the previous theme Talk for Learning, the female students in your classes may be less comfortable speaking out because as young girls, they've often been socialised to not be assertive or speak their mind. So when girls stay quiet in class (while the boys dominate) teachers tend to consciously or unconsciously think that boys are more clever and able. This belief can come out in teachers' attitudes and behaviours in class, further reinforcing boys' dominance and girls' lack of confidence. If you find that the female student teachers in your class are less vocal, it could be because they have experienced this type of treatment for the last 12 years of their schooling.

That said, the teaching strategies discussed in this theme will not only help you to successfully facilitate group work in your lessons, but they will do so in a way that encourages, supports and gets the best out of your female student teachers.

Theme 4: Talk for Learning Teaching Strategies		
Teaching Strategy		Main Points
T4-1	Group Formation	This teaching strategy explores different ways of forming groups and when to use them. For example forming friendship groups, gender groups, mixed attainment groups; assigning roles and responsibilities to group members.
T4-2	Managing Group Work	This teaching strategy explores ideas on how to manage the group work. For example assigning roles to group members, developing feedback skills.
T4-3	Different Types of Group Work	This teaching strategy explores different types of group work and their appropriateness for the learning activities of a lesson. For example same-task group work, carousel of activities group work.
T4-4	Reporting Back From Group Work	This teaching strategy explores ideas on how you can ask your student teachers to report back on what they have done in their group activities to the whole group. For example participatory feedback, using posters.
T4-5	Using Group Work in the Multilingual Classroom	This teaching strategy explores ideas to use the multilingual classroom as a source for rich learning through group work. For example using translanguaging, making a multilingual word wall.

Where to Find Various Aspects

Theme 4: Talk for Learning Teaching Strategies and Aspects				
Teaching Strategy		Strand A	Strand B	Strand C
T4-1	Organising and Forming Group Work	pyramid grouping	Trying out different group formations	Grouping by Gender
T4-2	Managing Group Work	Different ways of managing your groups - furniture teams, changing places, finding friends	Assigning roles to group members, developing constructive feedback skills	Assigning roles (Diamond Nine Activity)
T4-3	Types of Group Work	Different tasks group work - Jigsaw reading and Cross-grouping	Carousel of activities	Different tasks group work - jigsaw
T4-4	Reporting Back From Group Work	Peer review-voting	Participatory feedback	Plus, Minus, Interesting (PMI)
T4-5	Group Work in the Multilingual Classroom	Using storytelling	Multilingual word walls	Talk like an Expert

Further Reading



ORBIT Project, *Group Talk*, http://oer.educ.cam.ac.uk/wiki/Teaching_Approaches/Group_talk, Creative Commons Attribution ShareAlike 4.0, <http://creativecommons.org/licenses/by-sa/4.0/>

ORBIT Project, *Group Talk in Science - Research Summary*, http://oer.educ.cam.ac.uk/wiki/Group_Talk_in_Science_-_Research_Summary, Creative Commons Attribution ShareAlike 4.0, <http://creativecommons.org/licenses/by-sa/4.0/>

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Teaching Strategy 1

Group Formation

T4-1 i 1 Learning Objectives



By the end of the session tutors will be able to:

- plan to use different strategies to form groups that can be used in any subject to support student teachers learn effectively;
- use these strategies to form groups in their classrooms;
- organise their classroom for different group formations; and
- explain why group work is an effective strategy for learning.

T4-1 i 2 Introduction



Effective group work starts with effective group formation. It is important to think about how your student teachers will form groups - there are many options and variations. The groups need to be suited to the learning activity you want your student teachers to undertake.

In the table below are some grouping strategies to consider. They can be used and adapted for many topics, and all subjects. More details about these ideas are given after the table.

Theme 4: Group Work Teaching Strategy 1: Group Formation		
Aspect	How it works	Strand
Attainment Grouping	Deciding whether to use mixed attainment groups or grouping by level of attainment.	T4-1B
Friendship Grouping	Deciding whether the student teachers will work best with their friends for a learning activity, or not.	T4-1i
Gender-based Grouping	Deciding whether to use mixed or single gender grouping, or a combination of these, based on the learning activity and any gender issues you want to address in your class.	T4-1B T4-1C
Pairs, Small Groups, Large Groups	Deciding about the best group size for the learning you want to achieve and the type of activity you are asking the student teachers to do.	T4-1i
Pyramid Grouping	A strategy to work on building consensus. Student teachers start by working individually, then move into pairs, then groups of four, eight, etc.	T4-1A

Random Grouping	Deciding whether to group randomly or not.	T4-1i
Same Groups as Last Time	Using the same grouping as last time.	T4-1i

Attainment Grouping

Groups can be formed as mixed attainment or by level of attainment. Any level of attainment can benefit from being in mixed groups. However, in case different subject matter has to be studied depending on level of attainment, grouping according to attainment might be beneficial.

Friendship Groups

The benefit is that your student teachers might feel more comfortable working in friendship groups. However, they might not get challenged most in their thinking this way.

Gender-based Grouping

Groups can be mixed or single gender, or a combination of approaches. This will also allow you to address any gender issues you might have in your classroom. (More on gender grouping below.)

Pairs, Small Groups, Large Groups

Group size can be different: pairs, threes, fours, etc. The bigger the group the more potential there is for the most ideas to be generated. However, bigger groups also mean that each group member will have less time and opportunity to contribute, acoustics can hinder hearing each other, big sheets of paper will be needed to make sure everyone can read what is being recorded.

Random Grouping

Groups can be formed randomly rather than purposefully by gender or attainment. Random grouping could be done by for example deciding you want 8 groups in total. Then go round the classroom pointing to each student teacher and counting one to eight. This way each student teacher will know what group to join, i.e. all the 1s will form one group, all the 2s another, etc.

Pyramid Grouping

This is a way of collecting a consensus from the group, or a pool of facts. The group starts off by working on their own, brainstorming a certain topic and writing down their own list of ideas. Then, individuals are put into pairs. They compare their two lists, copying any new ideas from their partner. Pairs are then put into groups of four and the process is repeated. Groups of four are

put together into groups of eight and so on. A final list of facts or ideas, the best solution or whatever the 'product' was intended to be, is arrived at by majority consensus. The process is democratic and works on the principle of co-operation and building on what everyone has to offer. It shows the group that, as a team, they are more powerful than as an individual thinker; as a group they hold much more knowledge between them; one plus one is greater than two, and that they can learn from each other. Pyramid is often used as a reviewing technique where participants must recall discrete items, concepts, principals, decisions, guidelines, that they have learnt or decided on so far.

Same Groups as Last Time

You do not have to form new groups every lesson. A quick way of forming groups is to simply use the groups you used with those student teachers in the last lesson. If you think the groups worked well, and particularly if you are continuing with the same task (such as project work), you might simply want to use the same groups.

It could be helpful to use the form 'Observation Tool for Managing Group Work' which you can find in the section Further Resources to help analyse the different aspects of forming and managing group work in teaching practice.

There are Many Ways to Form Groups

There are of course many more ways to form groups, including forming groups by interest and by culture (or across interests and across cultures), as well as letting student teacher choose their own groups. What else can you think of?



Figure 5. How will you form groups?

T4-1 i 3 The Forming Groups Observation Tool



It can be advantageous to take structured notes about your group work, and it can be helpful to have a 'tool' to help you make such notes. The table below is a possible 'Group Work Observation Tool' that you can use during your teaching. It can then be used as the basis for the reflection after the lesson.

Try different group formations every time you teach and complete the following observation tool. You can ask a colleague or even a student teacher to observe you; you can also fill in the table yourself - but be sure to do it immediately after the lesson.

Group formations	Expected outcomes	Real outcomes
Attainment Grouping (mixed)		
Friendship Grouping		
Gender-based Grouping: Same Gender		
Gender-based Grouping: Mixed Gender		
Pairs, Small Groups, Large Groups		
Pyramid Grouping (1s, 2s, 4s, 8s etc)		
Random Grouping		
Same Groups as Last Time		
Other (interest, culture)		
Giving student teachers the choice		

T4-1 | 4 Using These Strategies in a Gender Responsive Way



Regardless of which type of grouping strategy you use, you should be conscious of the dynamics between females and males within the groups (as well as your interaction with the groups), in order to build female students' confidence and opportunities to speak. For example, when doing purposeful grouping (which includes grouping by attainment, gender or pyramid), you might want to start by experimenting in the following ways:

1. Start with all female groups - females tend to enjoy and benefit from a non-competitive, collaborative dynamic of working with other females. However, males should also be made aware that they shouldn't dominate and that *all* voices should be heard. One strategy is to start with all female groupings and transition into mixed groups gradually, while also setting rules for equal opportunities in speaking and leadership roles.
2. Transition on to groups in which there are mostly females, and 1 or 2 males. As you transition towards mixed groups, make sure to establish the rule that *all* members of a group should be able to speak and participate – no-one (female or male) should dominate.

3. Transition on to equal participation in mixed groups – ensure equal speaking and participation rules are being followed and make sure to assign leadership roles to females (especially if there are fewer females in the class).

When you ask a question or call on a group to report back to the class, be sure to:

- Be conscious of the number of questions asked/answered by males and females and the amount of attention you give: if males ask/answer more, you should make an extra effort to encourage females to ask/answer more.
- Be patient with females and males who may be shy or afraid to speak: understand that this is often due to low levels of self-confidence, so ensure that students, especially females, are given time to think and answer a question before moving on to another student.
- Be sure to assign group leader roles to females, and especially encourage those who don't readily volunteer or seem shy.

T4-1 i 5 Activity: Group Formation Strategies



In pairs, look at the list of teaching strategies for group formation above and discuss:

- Are there any more advantages and disadvantages of each group forming method you can think of?
- When would you use one method, when another?
- Are there any other group forming methods that you can think of?
- What do you think of the group formation observation tool introduced above?



Then, find another colleague whose name starts with the same letter as yours and share your ideas. Make notes of your ideas in your learning journal.

T4-1 i 6 Plan and Practise Together



The next three sections have examples of different activities around Group Formation that can be used in all subjects. In your own planning, please use the introduction above if you need further information on the various aspects. Also note that the example provided in each section is just for guidance. Do not spend too long on it, but move straight on to your planning activity.

You can also find more classroom ideas that you can use group work with in our previous themes (Creative Approaches, Questioning).

T4-1 i 7 Prepare for Teach and Reflect



Once you have planned your activity, come back together as a whole group, to see what issues arose. Make a note in your learning journal. After you have taught, write down your own observations and reflections on your activity

plan and in your learning journal, and be prepared to share these with others at the start of the next session.

T4-1 i 7 References



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Image: Sky diving, by skeeze <https://pixabay.com/en/skydiving-team-formation-jump-658404/>. CC0 Public Domain.



Theme 4: Group Work

Teaching Strategy 1 - Strand A

Forming Groups Using the Pyramid Method

T4-1 A 1 Example



How Mr Owusu Experiments With Forming Groups

Mr. Owusu in his first year DBE class for English (FDC 111), prepares to teach the topic Reading Comprehension/Textual Analysis. He decides to use the 'Pyramid' way of forming groups to encourage sharing and learning in his class. Let us see how he uses the 'Pyramid' effectively. Remember, we also used this strategy in Theme 3, teaching strategy 2.

Mr. Owusu writes a question on the board 'What different types of reading comprehension skills do you know?' He asks the student teachers to:

- first make notes individually;
- then work in pairs and share their list of ideas;
- then work in 4s and share their ideas and add to their list;
- join the 4s to make larger groups of 8 and so on until you make a final list of ideas.

Mr. Owusu lets his student teachers choose their own pairs, fours etc as he knows the class well and knows they will be co-operative and ensure no-one is left out. However he also monitors each stage of the pyramid to find out

- if this group formation suited the activity;
- who chose to work with whom;
- how the dynamics changed as the group moved from small to larger;
- how the student teachers organised themselves at each stage; and
- how the student teachers reported back from the 'Pyramid.'

Tutor Discussion



- How was the group formed in Mr. Owusu's class?
- What are the advantages/challenges, in terms of gender/ability/culture, of using this type of group formation?

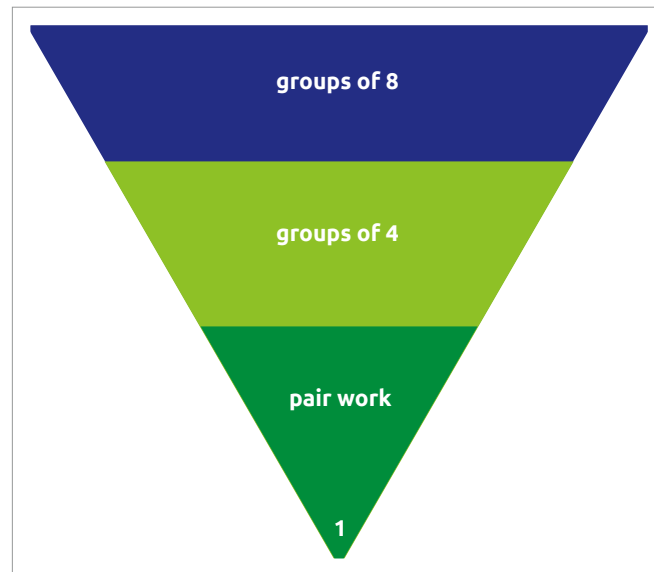


Figure 6. Pyramid group work: individual work, pairs work, groups of 4, 8, 16 (and so on).

T4-1 A 2 Plan and Practise Together



Group Formation Across the Curriculum

You are now going to plan your own group formation using 'Pyramid'. If the above examples fit what you are teaching, you can use them. However, you may well be teaching something else, so here are some more ideas from various subjects that lend themselves to using the 'Pyramid' group formation.

Fostering Emergent Literacy (Literacy Development in Early Childhood - ECE 122)

Now plan and practise using group work for the topic 'Fostering Emergent Literacy'. How will you organise your students to brainstorm and discuss in groups in a large class where the furniture cannot be moved around?

Meaning and Scope of Religious and Moral Education (Religious and Moral Education - FDC 119)

Pick one of the sub-topics 'The Nature of Religion, Morality and Education'

You could form your groups by asking which of the topic areas interest them the most: religion, morality or education? They then get into their interest groups.

Another way of doing this is to put your student teachers into three groups. You then write letters 'R', 'M' and 'E' on pieces of papers to represent 'Nature of Religion', 'Morality' and 'Education' respectively. Mix the papers up and

ask group leaders to pick one each and discuss the issues in their various groups. Why would you use this approach? Could you use any other strategy?

Sexual Harassment (HIV/AIDS Education - GNS 121)

Think about how you would organise your class that will get student teachers to talk about the subject and not feel embarrassed about it.

Can you use any of these ideas? If not, consult the syllabus and plan and practise a topic from your subject.

Plan Your Own Group Formation Activity



Can you use any of the above ideas? Hopefully the above topics give you an idea of how you can design a group formation activity for use in your classroom. But, as usual, it is possible that those ideas do not fit, and you will need to identify a topic that fits into your weekly lesson forecast.

Note that group work can be used by all subjects across the curriculum. However it needs to be organised well. How you form your groups is part of this organisation. It is important to think about whether your group formation fits well with the activity you want to do with your student teachers. To help with planning, ask yourself some questions, for example:

- Is this group formation suitable/appropriate for this activity?
- Will the group formation help my student teachers with the activity I have set them?
- Will it involve everyone equally?
- What size of groups shall I have?
- Who will be in the groups?



At the end of the planning activity you should have developed an activity plan that you can use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week. You may want to use the Group Work Observation Tool introduced in the T4-1 introduction.

T4-1 A 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-1 A 4 Reflect Together



Organising and Forming Groups for Learning

Now that you have tried different ways of forming group work in your class, share your experience with a friend. Think about these questions:

- Do you think the way you formed the group helped the interaction and learning within the group? Why/why not?
- What forms of grouping do you find works in your class best? Why?
- What have you learnt about your student teachers by trying out different forms of group work?

Teaching Strategy 1 - Strand B

Forming Groups by Gender and Mixed Attainment

T4-1 B 1 Example



How Ms Suglo Experimented With Different Ways of Forming Groups in Mathematics

Here is Ms Suglo's experience of group formation.

I am Ms Suglo and I tutor mathematics at a College of Education near Accra. I love it when my student teachers get engaged in the mathematics and I have noticed this happens more easily when I ask questions that make them think and when they have the opportunity to discuss their ideas with their peers. So I use group work activities quite a lot now.

I have noticed some issues in my classes that I would like to address next:

- **Gender issues:** Some of the female student teachers do not seem convinced they can be good at mathematics because they think it just is something girls can not be successful in. Even when they have me (female with a first class degree in mathematics) teaching them!
- **Student attainment:** The attainment of the student teachers varies greatly. There are some mathematically gifted students but not all attainment is as high. I do not believe being able to do mathematics is something you are born with but I do believe that all student teachers can become good at mathematics. I know some of the lower attaining student teachers have missed out on good mathematical learning opportunities in school: some were never taught by subject specialists, some missed lessons because they themselves or their teachers were frequently ill.

I wanted to see whether I could address these issues by using different group formations. I was also not to sure what the most effective grouping was in my classes to support the learning of mathematics. For example, what is the best group size? Do friendship groups work better than other group formations? What group formation is best for motivation, social cohesion, helping each other in learning?

I decided to try out the different formations, and get feedback from the student teachers to add to my observations about what worked best to support their learning. So I involved my student teachers in these experiments by talking openly about it, which I think would also develop their teaching and learning skills. At the end of each group activity, they answered this little questionnaire on a piece of paper which they then gave to me to analyse (see questionnaire, “What did you like about working in this group setting today?”).

We trialled this for two weeks, using group work activities and strategies from ‘Talk for Learning’ such as Think-Pair-Share; Always, Sometimes, Never True; and Convince Yourself, a Friend, a Scholar to learn about number patterns (FDC 212, unit 1).

What did the student teachers and I learn from this? It made us aware that there is no best way of forming groups. It depends on the personality of the student teachers, the activity, and the kind of learning I want my student teachers to experience. I feel more confident in varying the group formation depending on that. I also realised how helpful it is to make an effort to get to know your student teachers, their likes, dislikes and anxieties in terms of learning mathematics to support them to do well.



Figure 7. A group of student teachers working on a geometry task

What did you like about working in this group setting today?

Was there anything that stopped you from progressing in your learning of mathematics in this group setting today? If yes, what was it?

We were grouped by attainment I think. I am a 'high attainer' but it does not mean I know and understand everything. I noticed today that I find it difficult to admit this when I am in a group that is expected to be fantastically good at maths. So I sometime ended up pretending I totally understood the maths while I actually do not.

If you did this maths activity again, would you change the group formation in order to learn more effectively? Why?

Yes, I think it would be beneficial for my learning to be in a mixed attainment group for the reason explained above. Also, I think I would deepen my understanding of the maths if I had to help others in understanding the maths by having to explain it.

Did you learn anything new today about what helps you personally to get better at learning mathematics? If yes, what? If no, why not?

Yes, that I do not dare to own up that I do not understand the maths when I am amongst the 'high attainers' and that this is something that I should work on. I would welcome advice on how to do this! I also find that explaining something to other students can really help my own understanding. Likewise, having something explained to me by another student (who understands what I might be struggling with) is helpful.

Figure 8. Ms Suglo's questionnaire

Tutor Discussion



Discuss with your tutor colleagues:

- Have you noticed similar issues in your classes as in Ms Suglo's? If yes, what are they?
- What do you think about involving the student teachers in experimenting with grouping as Ms Suglo did? What are the advantages and disadvantages?
- Would you feel confident in doing a similar experiment? If not, what support do you think you would need to make you feel confident?

Make a note of your thoughts in your learning journal.

T4-1 B 2 Plan and Practise Together



Forming Groups in Mathematics and Across the Curriculum

The above examples might not work for you so here are four more ideas for group work:

Sequences and Series (Maths - FDC 222)

Experiment with different group formations, e.g. same gender groups, friendship groups, mixed attainment groups, when teaching 'Sequences and Series'. Group activities could be '*what is the same and what is different for working out the general terms of linear and exponential sequences*', '*what is the same and what is different for determining the sum of a linear and exponential sequence*'.

Reference: 2014 DBE Further Algebra, FDC 222, 2 & 3, p. 210.

Number and Basic Algebra (Maths - FDC 112)

Ask the student teachers to work in groups of 3, 4, 5 or 6 to come up with five different contexts where fractions can be used (eg rate, probability, proportion). Can you see a difference in the motivation of the student teachers depending on the group size?

Reference: 2014 DBE Mathematics (Number and Basic Algebra), FDC 112, Units 2 and 3, p. 206.

Sewing (Pre-Vocational Skills - FVH 121)

Use mixed gender group activity when you ask your student teachers to make posters that show how they would classify tools, equipment and materials for sewing. If you do not have poster paper available, just get student teachers to write an idea in large letters on double pages of their exercise book. As groups present, these can be held up.

Reference: 2014 DBE Sewing 1, FVH 121, Unit 2, p. 240.

Forms of Communication (ICT - GNS 221)

Use mixed attainment grouping when you ask your student teachers to design three exam questions that would test the knowledge and understanding of 'forms of communication'.

Reference: 2014 DBE Introduction to Information Technology 2, GNS 221, Week 6, p. 308.



Plan Your Own Group Formations Activity

Can you use any of the above ideas? If not, consult your syllabus and choose a topic from a lesson you will teach next week where you can use different

group formations. Plan in detail how you will form the different groups and how you will gather feedback on the effects this had on the learning of your student teachers. You can use the activity plan in the appendix.



At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week. You may want to use the Group Work Observation Tool introduced in the T4-1 introduction.

Please make sure that you have noted down everything you need to remember for your lesson in your activity plan.

T4-1 B 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-1 B 4 Reflect Together



How to Make Learning More Effective by Using Different Group Formations?

Now that you have used different group formations, reflect on how it went. If at all possible, do the reflection together with a colleague who has also tried this .

In your reflection, consider the following questions:

- What went well when you asked your student teachers to work in different group formations? Why was this?
- What did not go well? Why was this?
- What would you do differently next time?
- Did you notice any difference in motivation and social cohesion with your student teachers?
- Did you notice any difference in how females and males participated? If males dominated, how might you ensure equal participation next time?



Theme 4: Group Work

Teaching Strategy 1 - Strand C

Forming Groups by Gender

T4-1 C 1 Example



Grouping by Gender in a Science Lesson

Tutor Hilda enjoys doing group work with her students and she is keen to try out some of the new group work techniques that she has been learning about as part of her professional development. She thinks that 'Grouping by Gender' is an interesting way to encourage female students to participate more, particularly in male-dominated subjects like science. She spends some time thinking about her own school experience of learning science, in particular, from the point of view of being a female.

Most of my female friends at school did not elect to take science as their parents wanted them to do subjects that are more traditionally thought of as the ones that girls should be studying. Science was perceived as a difficult subject that would be more suitable for males to study. So, in my science class I had only a few other females that I could sit and work with. On the rare occasions that we did group work in science, often I would be the only girl in a group. Sometimes I felt that my opinions and ideas were not being listened to and I would many times let the males in the group take the lead.

Hilda talks about these issues with a few of her colleagues at the college and this is what two of them have to say.

Georgina's Experience of Single Gender Science Lessons

At an all girls school, it was fun learning science because we did not have inhibitions with participation and making contributions during the lessons. During group discussions, the girls felt free to make our points without fear of being criticised by boys. The environment was, simply put, safe and encouraging even though our tutors were mostly males. It also helped us to explore further and take more interest in science, especially the experiments.



Figure 9. The NASA astronaut Dr Mae C Jemison who flew into space in 1992

Annafo's Experience of Mixed Gender Science Lessons

Learning science as an elective programme from secondary school through college up to the university in mixed gender classrooms was very interesting.

Girls were poorly represented in terms of number in the classrooms at all the levels I attended and as a result they sometimes enjoyed some level of support from some of their male counterparts. At some of the times too where the girls outperformed some of the male counterparts in a classrooms those male students labeled these girls as having 'witchcraft' because they are excelling in a field perceived to be a masculine endeavour. This attitude made some of the girls very reserved especially in answering questions in the classroom even when they knew the answers.

There were girls who also genuinely felt shy in a male dominated classrooms and this largely affected their contribution in open classroom discussion.

Interestingly also, as male students we often put up good classroom behaviours in the presence of girls as in group work.

Tutor Hilda's Think, Pair, Share, Square Activity on Grouping by Gender

Given the varied experiences that Hilda and her colleagues had when studying science in school, Hilda decided that initially grouping by gender (and eventually transitioning into mixed groups) might address some of the problems that came up. She then decided that it would be good for her student teachers to go through the same thought process, so she set up an activity where she asked her students to discuss their own experience of learning science through the lens of gender. She wanted to use small groups for these discussions and decided to use the 'Think, Pair, Share, Square' strategy. She first had her student teachers think individually about their own experience of learning science and asked questions like: What gender issues did you see or face? Were girls and boys treated equally? Were girls encouraged as much as boys? If not, what strategies would promote equal treatment, encouragement and participation?

Hilda also wanted to use gender grouping with this teaching strategy, so she had the students pair up with a partner of the same sex in order to create a safe space to 'share' their thoughts. Then she had the pairs join up with another pair to form a 'square' for further discussion about strategies to promote the equal treatment and participation of girls in science.

As the group discussions came to an end Hilda gave each group a copy of her 'Gender Responsive Pedagogy checklist' (see Further Resources for this checklist). Groups were asked to compare the strategies that they developed to this list and analyse any new strategies - particularly grouping pupils by gender. Hilda then asked the groups to discuss whether they thought that this grouping strategy would be helpful in addressing gender issues in science, and whether they would use this strategy when they became teachers.

Tutor Discussion



Briefly share your own school experience of learning science (through the lens of gender) and then discuss the following questions:

- Did you see or experience the same gender issues that Hilda and her colleagues experienced? Do you have any other experiences to add?
- After reading the strategies in the Gender Responsive Pedagogy checklist (see Further Resources), what issues/problems would gender grouping address and not address?
- Do you see any advantages or disadvantages to raising awareness of gender issues? Particularly in science?
- Would you use gender grouping for other subjects? Would you use gender grouping for other teaching strategies? If so, which ones and why?



Figure 10. A group of female student teachers having an animated discussion in science

T4-1 C 2 Plan and Practise Together



Grouping by Gender Across the Curriculum

If you are teaching in a mixed gender college try an activity this week (you could choose a Talk for Learning activity) with your student teachers that they can do in gender groups. Plan the activity with a particular focus on forming a range of gender groups and include in your plan how you will monitor the interactions within the different groups. In particular observe how the female and male student teachers in single gender groups are getting on (how effective is their learning?) compared to those in mixed gender groups. Think about the ground rules that you would need to set in order to maintain effective learning while transitioning from single gender groups to mixed groups. Be prepared to talk about your observations next week.



If you are teaching in an all male or all female college plan an activity with your student teachers that gets them thinking about the types of gender issues faced by students in mixed classrooms. Perhaps you could design a 'Concept Cartoon' with a mixed gender group talking about their preferences for group work and why. You could use this to elicit your student teachers' opinions and ideas on the pros and cons of grouping by gender. Or maybe a PMI activity would work best? Be prepared to talk about your observations next week.

An alternative activity is to share the Gender Responsive Pedagogy checklist in groups and ask student teachers to write a collaborative summary of their thoughts about it or you could do Hilda's lesson with your student teachers.



At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week. You may want to use the Group Work Observation Tool introduced in the T4-1 introduction.

T4-1 C 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-1 C 4 Reflect Together



Grouping by Gender Across the Curriculum

Now that you have done an activity with your student teachers focusing on gender groups, reflect on how it went. Do the reflection together with colleagues who also tried the activity.

If you teach in a mixed gender college, consider the following questions:

- How useful was your activity for getting student teachers of the same gender to build on what each other said?
- Did student teachers engage with the activity on a different level due to being in same gender groups? How do you know?
- What feedback did you receive from the student teachers after the activity? What did they say?
- Did anything surprise you during the activity?
- What will you do differently next time you do a gender grouping activity? Why?
- What ground rules would you need to set in order to maintain effective learning while transitioning from single gender groups to mixed groups?

If you teach in a single gender college, consider the following questions:

- What activity did you choose to raise awareness of gender issues with your student teachers? Was it successful? How do you know?
- Is it important to learn about gender-responsive teaching in single gender colleges? Why?

Remember to write down your thoughts in your learning journal. Also note down what you learned from this session that was most effective in improving your teaching.

T4-1 C 5 Further Resources



A Gender-Responsive Pedagogy checklist

Here is a checklist that tutors/teachers can use to make their classrooms more gender responsive.

1. **Be conscious of the number of questions asked/answered by males and females and the amount of attention you give:** if males ask/answer more, tutors/teachers should make an extra effort to encourage females to ask/answer more.
2. **Be patient with females and males who may be shy or afraid to speak:** understand the often lower levels of self-confidence, so ensure that students, especially females, are given time to think and answer a question before moving on to another student.
3. **Be aware of the impact of the seating arrangements on classroom interaction:** do males sit at the front and dominate? Are the females in a corner or in the back and left alone? If so, actively rearrange the seating so that it is more mixed and that quieter students sit at the front.
4. **Experiment with different student groupings to find which are the most comfortable and effective:**
 - **All female groups** - Females tend to enjoy and benefit from a non-competitive, collaborative dynamic of working with other females. However, males should also be made aware that they shouldn't dominate and that all voices should be heard. One strategy is to start with all female groupings and transition into mixed groups gradually, while also setting rules for equal opportunities in speaking and leadership roles.
 - **Groups in which there are mostly females, and one or two males** - As you transition to mixed groups, make sure to establish the rule that all members of a group should be able to speak and participate - no-one (female or male) should dominate.
 - **Mixed groups** - Ensure equal speaking and participation rules are followed and make sure to assign leadership roles to females (especially if there are fewer females in the class).
5. **Make sure to check if both females and males equally understand the lesson and provide extra support where necessary.**
6. **Make sure to provide constructive verbal feedback to both females and males in class.** If you see that females have lower levels of confidence (particularly in maths and science), be sure to encourage them and try to build their confidence.

7. **Try to use teaching materials that *do not show or reinforce traditional gender roles*** (eg., women cooking/cleaning and men in professional roles). If these are not available, point out and discuss the traditional gender roles that do appear in textbooks/materials and discuss how these limit what females think they can achieve in their education and lives.
8. **Actively use examples (in exercises or activities) that *challenge or reverse traditional gender roles*** (eg., show men cleaning or cooking, and women as doctors) and encourage both females and males to feel confident to challenge traditional gender roles in their lives.
9. **Try to praise and encourage girls in their work** (especially in maths and science) without being patronising or condescending.
10. **Be sensitive to females' need to occasionally leave the class for the toilet/bathroom:** female students may need to use the toilet more while menstruating, or they may be uncomfortable to use the toilets during break times (particularly if they have to share toilets with males).
11. **Make sure classroom cleaning or chores do not reflect or reinforce traditional gender roles:** for example, only female students run errands or clean up – all chores should be done equally.
12. **Have a zero tolerance policy for gender-based teasing and harassment in and outside class.**

Use the following version of the checklist to audit how gender responsive your pedagogy is. Give yourself a mark out of ten based on how much you now do the different actions.

Make a point of completing the checklist again at a later date to see if you have become more gender responsive in your teaching after some professional development.

A checklist of actions that tutors can take to make their classrooms gender responsive		
1. Be conscious of the number of questions asked/ answered by males and females and the amount of attention you give.	now (out of 10)	later (out of 10)
2. Be patient with females and males who may be shy or afraid to speak.		
3. Be aware of the impact of the seating arrangements on classroom interaction.		

4. Experiment with different student groupings to find which are the most comfortable and effective: 1. All female groups 2. Groups in which there are mostly females, and one or two males 3. Mixed groups		
5. Make sure to check if both females and males equally understand.		
6. Make sure to provide constructive verbal feedback to both females and males in class.		
7. Try to use teaching materials that <i>do not</i> show or reinforce traditional gender roles .		
8. Actively use examples (in exercises or activities) that <i>challenge or reverse</i> traditional gender roles.		
9. Try to praise and encourage females in their work.		
10. Be sensitive to female students' need to occasionally leave the class for the toilet.		
11. Make sure classroom cleaning or chores do not reflect or reinforce traditional gender roles.		
12. Have a zero tolerance policy for gender-based teasing and harassment in and outside class.		

T4-1 C 6 Sources



Image: "The NASA astronaut Dr Mae C Jemison who flew into space in 1992" - in the public domain and can be found here: https://commons.wikimedia.org/wiki/File:Dr._Mae_C._Jemison,_First_African-American_Woman_in_Space_-_GPN-2004-00020.jpg

Introduction to Teaching Strategy 2

Managing Group Work

T4-2 i 1 Learning Objectives



By the end of the session tutors will be able to:

- Use strategies for managing group work so it can run smoothly and effectively.
- Plan group work so that all student teachers are engaged.
- Use well-managed group work in the classroom to help student teachers learn more effectively.

T4-2 i 2 Introduction



This teaching strategy explores ideas on how to manage group work, such as roles and routines for group work. Group work can work very effectively and smoothly, but it requires some management. In the table below are some ideas that help to manage group work. They can be used and adapted for many topics, and all subjects. More details about these ideas are given after the table.

Theme 4: Group Work Teaching Strategy 2: Managing Group Work		
Aspect	How it works	Strand
Assign Roles and Responsibilities to Group Members	A strategy to make sure all student teachers in a group participate and the ideas get recorded.	T4-2C
Develop Constructive Feedback Skills	Developing constructive feedback skills with your student teachers can improve their attainment and can change your classroom into a co-operative learning environment.	T4-2B
Set Up Rules and Routines	This strategy will ensure your student teachers will know what learning behaviour is expected for group work. Additional strategies to keep everyone actively involved, such as furniture teams, changing places and finding friends can also be built in to your classroom routine.	T4-2A

Develop Constructive Feedback Skills

Research (Hattie, 2012) shows that one of the best ways of improving student achievement is to provide good feedback about what they need to do to improve and the next steps in their learning. When working in groups or pairs, you can encourage your student teachers to review each other's work by providing constructive feedback.

Ideally, feedback should provide encouragement by indicating what has been done well, but also help to understand how to improve. Everyone likes to know what they have done well. It should also show where they have gone wrong, indicate what they need to do to improve and include some questions to make them think. Student teachers can learn a great deal by discussing their work with their peers: they learn evaluative skills as well as reinforce their knowledge of the subject content they are working on.

It will take time for your student teachers to learn how to evaluate each other's work and give feedback, and they will need practice. You will also need to establish some simple rules. For example, when commenting on someone's work, you always say two positive things for every negative comment. Negative comments can be presented in a positive way: 'It would be even better if ...' is more friendly than 'You should have ...'

Assign Roles and Responsibilities to Group Members

Some of the risk when asking your student teachers to do activities in groups is that some individuals in the group can be too controlling or not participating; there is a lot of purposeful talk but nothing gets recorded; it is not clear who will be reporting back and hence the group is not prepared well enough to do so. To avoid such situations you can ask each group to decide who will be the scribe, the reporter, the timekeeper, the 'chairperson' who ensures every voice is being heard. If you start to see the same people consistently taking leadership roles, you can also intervene by making sure that female students and less vocal students are given equal opportunities to be leaders.

Set Up Rules and Routines

When you use group work regularly, your student teachers will know what you expect and find it enjoyable. Initially it is a good idea to work with your class to identify the benefits of working together in teams and groups. You should discuss what makes good group work behaviour and possibly generate a list of 'rules' that might be displayed; for example, 'Respect for each other', 'Listen', 'Help each other', 'Try more than one idea', 'Everyone should participate', etc.

It is important to give clear verbal instructions about the group work and write them on the board for reference. You will also need to:

- Direct your student teachers to the groups they will work in according to your plan, perhaps designating areas in the classroom where they will work or giving instructions about moving any furniture or bags. Use approaches such as furniture teams, changing places and finding

friends to help things run smoothly and to keep everyone actively involved.

- Be very clear about the task and write it on the board in short instructions or pictures. Allow your student teachers to ask questions before you start.
- During the lesson, move around to observe and check how the groups are doing. Offer advice where needed if they are deviating from the task or getting stuck.

Managing Group Work Observation Tool and Checklist

Observation Tool for Managing Group Work

In T4-1, we introduced the Group Formation Observation Tool, specifically to be able to observe group formation. We are now introducing a new observation tool, to do with managing group work.

The tool can be used while you observe a colleague. You use the observation tool to note down how s/he manages using group work in the classroom.

Stage	Sub-skill	Observation	Comment
Moving into an activity	Organising groups, seating etc Instructions Appointing, briefing 'leaders' / roles (being conscious of gender)		
Facilitating group work	Facilitating Verbal interaction (with student teachers) Tutor's voice / position / body language		
Moving out of an activity	Wind down Signalling Re-orientating Reporting back (who / how? Be conscious of gender.)		

Checklist for Using Group Work

It is also helpful to create 'checklists' when trying out a new strategy. To help you with managing groups, here is an example checklist for group work. There are a few blank rows at the bottom, to allow you to add your own questions.

Before you use group work, check you have...	Yes	No
Created a climate for group work.		
Linked activities with the appropriate work arrangement (group work).		
Planned the activities carefully by asking, 'Is it real group work?' 'Does it have clear outcomes? What type of group work is needed for the activity?'		
Prepared resources and group formation.		
Thought about how to manage the activity to ensure that everyone participates equally.		
Allowed time for 'report back' and reflection.		

T4-2 i 3 Activity: Advantages and Disadvantages of Managing Group Work Strategies



Think-Pair-Share. On your own, write down:

- one advantage of each of the ideas (assign roles and responsibilities, set up rules and routines, develop constructive feedback skills);
- one disadvantage of each of these ideas.

Then, get up and talk individually to one other colleague to share these ideas. The colleagues should not be sitting at your table and it should require at least five steps to get to them. Then share the ideas with everybody. Make notes of your ideas in your learning journal.

T4-2 i 4 Plan and Practise Together



The next three sections have examples of different activities for Managing Group Work that can be used in all subjects. In your own planning, please use the introduction above if you need further information on the various aspects. Also note that the example provided in each section is just for guidance. Do not spend too long on it, but move straight on to your planning activity.



In your planning, pay attention aware of the gender dynamics in your classroom, and creating an equitable learning environment for all students. Refer back to the gender section in the introduction to T4 and T4-1 if necessary.

T4-2 i 5 Prepare for Teach and Reflect



Once you have planned your activity, come back together as a whole group, to see what issues arose. Make a note in your learning journal. After you have taught, write down your own observations and reflections on your activity plan and in your learning journal, and be prepared to share these with others at the start of the next session.

T4-2 i 6 References



Hattie, J. (2012) *Visible Learning for Teachers: Maximising Impact on Learning*. Abingdon, UK, Routledge.

T4-2 i 7 Sources



TESS-India, *Pair work: atoms and molecules, and chemical reactions*, http://www.open.edu/openlearnworks/pluginfile.php/145512/mod_resource/content/1/SS01_Pair%20work%20atoms%20and%20molecules%20and%20chemical%20reactions.pdf, , available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>; unless identified otherwise).

TESS-India, *Key resource: Using groupwork*, http://www.open.edu/openlearnworks/pluginfile.php/135225/mod_resource/content/1/KR07_PDF.pdf, available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>; unless identified otherwise).



Teaching Strategy 2 - Strand A

Managing Group Work with Seating Routines

T4-2 A 1 Example



Group Work Management Ideas in English

Your PDC will organise you so that you will read different ways of managing group work. After reading and discussing, do the task under the tutor discussion heading.

Furniture Teams

If you work in a traditional institution, it may not be possible to keep the furniture in the way you like it for more than one session. A lot of time can be wasted moving furniture around at the beginning and replacing it at the end of the session. It's better to move tables and chairs before the session starts and put them back in the break between sessions. The tutor should not do the moving – the student teachers should. Put the student teachers into 'Furniture Teams' so that student teachers take it in turns to do the work. For example, team one knows how to put the tables into a horseshoe. Team two knows how to set up the tables for small groups so that student teachers sit in groups of four. Team three knows how to take the tables out all together so that only the chairs are put into a circle. Then, at the end of a session when the tutor says, "Tomorrow, team two please." it's team two's responsibility to arrange the room for small groups before the class begins and put it back at the end.



Figure 11. Moving the desks in preparation for group work

Changing Places

Get student teachers to change where they sit on a regular basis. If student teachers aren't used to being moved around they may be reluctant to comply, but if you get them into the habit of moving every session, they will get used to it. There are lots of advantages in mixing up the student teachers. If the tutor has a large class and is in the habit of teaching to the front three rows, the fact that those front three rows change means the tutor pays attention to different student teachers each time. Student teachers may behave differently with different partners and by mixing them the tutor can find out which other student teachers have a positive effect on the difficult ones. Seemingly, random mixing of student teachers helps take away student teachers' pre-conceived ideas of who is 'best' and who is 'worst' or who is higher status. One way of doing this is to have a repertoire of fixed groups that you can put student teachers in. For example, the tutor works out a plan to group the student teachers three ways: in single ability groups, mixed ability groups, and role balanced groups (one secretary, one thinker, one shaper, one team worker...). Each group type has a name - these names can be taken from key concepts in your course that the tutor wants to emphasise or revise.

Finding Friends

An alternative is to use different warmers and short games to put the student teachers into new pairs and groups. The warmer activity takes away student teacher' reluctance to get out of their seats and move somewhere new. You can do this by using the class's own *characteristics*: all the student teachers who have birthdays in January to April in one group, May to August in a second group, September to December in a third group. Or you can use *categories*: favourite music, learning preferences, favourite foods. Or you can use *pairs*: student teachers get cards or slips of paper with something written on it which they have to match:

Sadiq	Verb
Beautiful	Noun
Singing	Adjective

Tutor Discussion



After you have read your text and your PDC has formed groups through cross-grouping, fill in the table below.

GW management idea	Advantages	Disadvantages	Use/not use?
Furniture Teams			
Changing Places			
Finding Friends			

T4-2 A 2 Plan and Practise Together



Seating Routines

You are now going to manage your own group work by using one of the ideas in the example. If the above examples fit what you are teaching, you can use them. However, you may well be teaching something else, so here are some more ideas from various subjects that lend themselves to one of the management ideas above.

Colonisation and National Development (Social Studies - FDC 128)

Use the 'Furniture Team' for managing group work and consider the stage that you would use it in your lesson.

Concept of Allophones (Ghanaian Language and Culture - FDC 123)

Use 'Changing Places' for managing work and think about the challenges that you might face in your class.

Pitch Notation (Music and Dance - PRA 211)

Use the 'Finding Friends' idea for managing group work and consider the reasons why you would use it in your lesson.

Plan Your Own Seating Routines Activity



Can you use any of the above ideas? Hopefully the above topics give you an idea of how you can use Design an Activity for use in your classroom. But, as usual, it is possible that those ideas do not fit, and you will need to identify a topic that fits into your weekly lesson forecast.

At the end of the planning activity you should have developed an activity plan that you can use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.



The **observation tool for managing group work** (see Theme 4-2 introduction) can be used when you observe each other in class. There is also a **checklist** (see Theme 4-2 introduction) you can use to help you when you use group work with your student teachers.

T4-2 A 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-2 A 4 Reflect Together



Seating Routines

After you have taught the lesson using group work, use the Observation Tool below to reflect together about how you manage group work effectively in the classroom.

Teaching Strategy 2 - Strand B

Managing Group Work by Assigning Roles and using Feedback

T4-2 B 1 Example



How Mr Zakaria Managed Group Work in his Mathematics Class

Mr Zakaria is an experienced tutor of mathematics who also has some extra responsibilities in the department. He has been using group work in his teaching practice and the learning of the student teachers is good. However, he thinks there is still room for improvement. This is Mr Zakaria's story on how he decided to do this.

I have been using group work activities with my student teachers for about a semester now, and I am really pleased with the improved learning, enjoyment and increased participation as a result. I have been particularly surprised by how well the student teachers learn from each other. This made me re-evaluate my role as a tutor: I do not have to be the person that holds all the knowledge. So I would like to make the process of the student teachers learning from each other even better as I think it has great potential to optimise their learning opportunities.

To address this I decided to use the teaching strategy of giving roles to members of a group, and varying these roles with each activity. To further improve the learning from each other I also wanted to develop the skills of the student teachers for peer review when feeding back group findings to the whole class. I had found some questions in an article by Hattie and Timperley that would stimulate this to happen. Because I thought this was not something that could be achieved in one lesson, I would focus on this for a week, and make sure I made time for myself to reflect on how it went every lesson, writing my thoughts in my learning journal. I had also arranged a time to meet up with a colleague-friend at the end of that week to help me reflect on the overall experience. The maths topic for that week was 'Relations and Functions' (FDC 112, Unit 4). I used activities from previous T-TEL strategies such as 'Always, Sometimes, Never True' and 'Find Three Examples Of'.

An example of a group activity that Mr Zakaria used can be found in the box.

Forming groups and assigning roles

Form groups of four or five student teachers. Decide who will take on the following responsibilities in your group for this activity, making sure that females and males have equally opportunities (you will be asked to swap responsibilities next time):

- scribe, the reporter,
- the timekeeper,
- the 'chairperson' (who ensures every voice is being heard).

The maths activity

In your groups find three examples related to real life situations that illustrate:

- one to one mapping
- one to two mapping
- one to many mapping

For example, my mother is married to my father. They are not, and have not been, married to someone else. This is a one-to-one mapping of the relationship 'married to'.

Then come up with a description of what is the same and what is different in the way you work out one to one mappings, one to many mappings, many to one mappings and many to many mappings.

Giving feedback and reporting

Practise giving feedback to yourself by reflecting as a group on:

- Where are we going? Are we addressing the questions or aims of this activity?
- How are we doing? Are we progressing with addressing the questions?
- Where to next? What can we do next to address the questions or to even go beyond answering the questions?

All groups will be asked to report these examples and your description to two other groups. Comment on the other groups' presentation in terms of:

- Where are they going? Are they addressing the questions or aims of this activity?
- How are they doing? Are they progressing with addressing the questions?
- Where to next? What can they do next to address the questions or to even go beyond answering the questions?

Make sure that when you are commenting you always say two positive things for every negative comment. Try to present negative comments in a positive way, for example: "It would be even better if ..." is more friendly than "You should have ..."

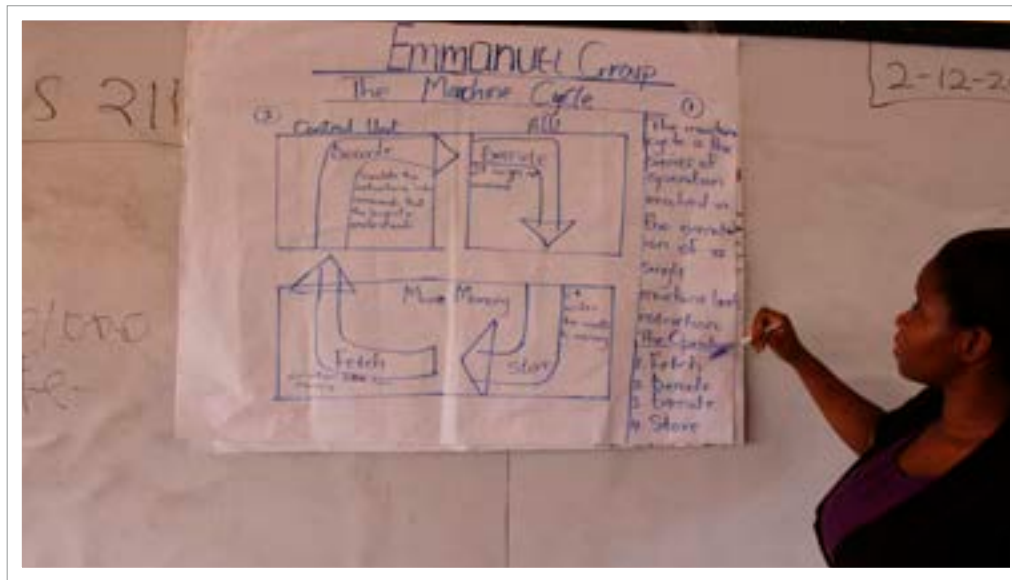


Figure 12. A student teacher responds to a question from the class during whole class feedback

Tutor Discussion

Discuss with your colleagues:



- In what way do you think giving specific responsibilities to group members will support the learning of the group?
- Mr Zakaria is very explicit in his instructions about the way he wants his student teachers to give feedback to each other. How do you think this will support his student teachers to do so?
- Would you use the same instructions or what would you say differently?

T4-2 B 2 Plan and Practise Together



Assigning Roles and Using Feedback

The above example might not work for you, so here are four more ideas that lend themselves to managing group work by giving roles to members of a group and developing peer review skills.

Collecting and Representing Data (Maths - FDC 312)

Try giving student teachers different roles within their groups when teaching methods of collecting and representing data (FDC 312, unit 1).

Reference: 2014 DBE Statistics and Probability, FDC 312, Unit 1, p. 315.

Number Patterns (Maths - FDC 222)

Instruct student teachers on how to give constructive feedback to each other when investigating number patterns in groups.

Reference: 2014 DBE Further Algebra, FDC 222, Unit 1, p. 210.

Classification of Fibres According to Their Sources (Pre-Vocational Skills - FVH 121)

Ask the student teachers to use the same questions to help with giving constructive feedback as in the example when doing a group work activity on 'classification of fibres according to their sources'.

Reference: 2014 DBE Sewing 1, FVH 121, Unit 4, p. 240.

Application Software (ICT - GNS 221)

Assign roles to student teachers in their groups when asked to do a group work activity for hands-on practicals on application software.

Reference: 2014 DBE Introduction to Information Technology 2, GNS 221, Weeks 13 & 14, p. 310.

Plan Your Own Classroom Activity



Can you use any of the above ideas? If not, consult your syllabus and choose a topic from a lesson you will teach next week where you can give roles to members of a group or develop peer review skills. Plan in detail how you will do this. You can use the activity plan in the appendix.



At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.

The **observation tool for managing group work** (see Theme 4-2 introduction) can be used when you observe each other in class. There is also a **checklist** (see Theme 4-2 introduction) you can use to help you when you use group work with your student teachers. Please make sure that you have noted down everything you need to remember for your lesson in your activity plan.

T4-2 B 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember

to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-2 B 4 Reflect Together



Assigning Roles and Using Feedback

Now that you have used the strategies of assigning roles to group members and developing feedback skills to manage group work, reflect on how it went. If at all possible, do the reflection together with a colleague who has also tried this.

In your reflection, consider the following questions:

- What went well? Why was this?
- What did not go well? Why was this?
- What would you do differently next time?
- Did you notice any difference in the social cohesion and learning from each other with your student teachers?
- Did female and male students participate equally? If not, what can you do to improve this situation for next time?

Make a note of your thoughts in your learning journal.

T4-2 B 5 References



Hattie, J. (2012) *Visible Learning for Teachers: Maximising Impact on Learning*. Abingdon, UK, Routledge

Hattie, J. and Timperley, H. (2007) 'The power of feedback', *Review of Educational Research*, vol. 77, no. 1.

T4-2 B 6 Sources



TESS-India, *Pair work: atoms and molecules, and chemical reactions*, http://www.open.edu/openlearnworks/pluginfile.php/145512/mod_resource/content/1/SS01_Pair%20work%20atoms%20and%20molecules%20and%20chemical%20reactions.pdf, available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>; unless identified otherwise).

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Teaching Strategy 2 - Strand C

Managing Group Work by Assigning Roles

T4-2 C 1 Example



Assigning Roles to Group Members for a Diamond Nine Activity in Science

Victor is a college tutor working in a college of education in the Aburi region. He teaches science to his student teachers and he has been doing group work for a few years now - it helps him to manage his classroom well and to make the most of the scarce resources in science which can be easily shared when his students work in groups. During a recent professional development session, Victor was challenged to think again about his rationale for doing group work with his student teachers.

Since doing group work with my student teachers some of them have grown in confidence and are very happy to take on a leadership role within their groups, particularly the young women. I want to focus now on developing the student teachers' 'soft' skills so that they all can take an active part in an ever demanding workplace. I am reminded that group work is an excellent vehicle for experimenting with creativity, for refining communication skills and for developing respect for individual preferences: it just needs to be managed carefully!

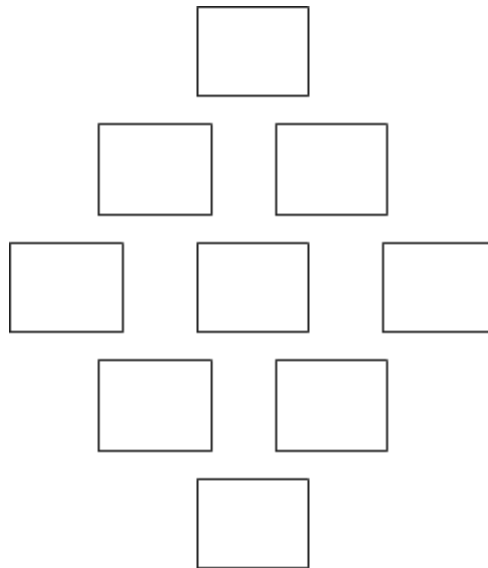
Victor explores a way of managing group work so that everyone gets the most from the group activity. He decides to assign specific roles to group members when planning his group work activities. He has done this with some groups in the past in an ad hoc way but this time he factors it into his planning and activity choice. He also wants to make his student teachers more aware of the need to try out different roles within groups and he will be encouraging them to keep a journal of their involvement in group work and the kinds of roles they have taken on.

Tutor Victor's Planning Notes for the Diamond Nine Activity

Here are Victor's planning notes for a 'Diamond Nine' activity:

- Do a quick introduction about group work and roles and keeping track of participation.

- Introduce the 'Diamond Nine' activity - the idea is to make a list by importance in the shape of a diamond (most important at the top/least important at the bottom), like this :



- Write a list of human body organs on the board and this - " Organise by importance - 'hardest to do without' goes first"
 - brain
 - heart
 - lungs
 - liver
 - stomach
 - kidneys
 - eyes
 - intestines
 - veins (these are considered to be organs)
- Write this list of roles on the board, emphasising that females and males should have equal opportunities to take on these roles:
 - leader (make sure everyone listens/negotiates/clarifies)
 - timekeeper (keep activity on track)
 - notetaker or scribe (make notes on rationale for prioritisation)
 - reporter (report back to class at end of activity)
- Demonstrate how to fold a piece of A4 paper to make nine equal-sized slips of paper by tearing along the folds.

- Groups write each organ on a different slip of paper (9 organs and 9 slips of paper) and discuss in their groups what order to put them in and why.
- Note - the actual order matters less than the quality of talk during the structuring/sorting process.

DBE syllabus reference: "The cell" (FDC 114, *Integrated Science 1*, Biology, Unit 1).

Tutor Discussion



Briefly share your own experience of managing group work with your student teachers and then discuss the following questions:

- How can you make sure that student teachers experience a variety of roles across different activities (to make sure that some students are not dominating or just taking the role that they like)? How will you/they keep track of this?
- What other group work activities can you manage in this way (by assigning roles)? What roles would you assign and why?
- Building on the ideas of the previous session (gender-responsive pedagogy), what do you think of the idea of assigning to females roles that are traditionally assigned to males and vice versa? What roles would you choose and why?



Figure 13. Student teachers take on different roles during a group work activity

T4-2 C 2 Plan and Practise Together



Assigning Roles

You can use the idea of assigning roles to group members with many group work activities, not just the 'Diamond Nine' activity. Likewise you can do the 'Diamond Nine' activity without assigning roles to group members.

You are now going to plan your own 'Diamond Nine' activity as a way of managing group work. The previous example will only work for you if you happen to be teaching about the organs of the body, so here are some more ideas from various subjects that you can use the 'Diamond Nine' technique with.

Agricultural Hazards Diamond Nine (Integrated Science - FDC 114)

Organise these hazards that could occur in an agricultural environment (farming/growing crops) by risk (most likely to happen and have devastating consequences goes first):

- chemical (fertiliser/insecticide)
- machinery
- weather (flood/storm)
- financial (lose money)
- fire (burning waste)
- electrical (lighting for poultry)
- zoonotic (infectious diseases passing from animals to humans)
- snake bite
- insect bite

DBE syllabus reference: "Kinds and causes of hazards/accidents and injuries" (FDC 114, *Integrated Science 1*, Agriculture, Unit 2).

Digestion Diamond Nine (Integrated Science - FDC 224)

Organise these foods by how easy they are to digest (i.e. pass through your stomach):

- kimchi - Korean dish made from fermented cabbage/vegetables (< 1 hour)
- salmon (1 hour)
- chicken breast (2 hours)
- peanuts (3 hours)
- yam (3 hours)

- yoghurt (3 hours)
- beef (4 hours)
- other dairy products - hard cheese, whole milk (5 hours)
- fufu (7 hours)

DBE syllabus reference: "Digestion in humans" (FDC 224, *Integrated Science 3*, Biology, Unit 3.)

Energy Diamond Nine (Integrated Science - FDC 114)

Organise these forms of energy in terms of their usefulness in everyday life

- light energy
- heat energy
- mechanical energy
- gravitational energy
- electrical energy
- sound energy
- chemical energy
- nuclear or atomic energy
- solar

DBE syllabus reference: "Energy, work and power" (FDC 114, *Integrated Science 1*, Physics, Unit 2).

Role of Schools Diamond Nine (PE - PRA 215)

Organise the following by importance:

- Providing safe places of convenience for school children.
- Providing adequate playgrounds, play equipment and materials.
- Creating the right social and emotional environment.
- Assisting children deal with conflict, loss, grief, sadness, etc.
- Providing and ensuring that children use safety and protective devices.
- Providing adequate supervision of children.
- Formulating policies to guide school activities.
- Collaborating with parents and other stakeholders.
- Providing adequate First Aid services.

Reference: "Health and Safety in Physical Education and Sports" (PRA 215, "Role of schools", Unit 4).

Planning Your Own Diamond Nine Activity



Come up with a 'Diamond Nine' activity on a topic from a lesson you will teach next week. Write the nine statements or words in an activity plan; you can find the activity plan template in the appendix. Also write in your plan other planning details (resources needed etc.) that will help you to do the activity successfully with your student teachers. Make sure to include notes on the the following:

- the roles you will ask student teachers to take on and the responsibilities that come with them
- how you will assign these roles to different group members
- how student teachers will record details of their participation/role

At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week. The **observation tool for managing group work** (see Theme 4-2 introduction) can be used when you observe each other in class. There is also a **checklist** (see Theme 4-2 introduction) you can use to help you when you use group work with your student teachers.

T3-1 C 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T3-1 C 4 Reflect Together



Assigning Roles

Now that you have assigned different roles to your student teachers within their groups using a 'Diamond Nine' activity, reflect on how it went. Do the reflection together with colleagues who also tried the activity.

In your reflection, consider the following questions:

- How effective was the 'Diamond Nine' activity in getting your student teachers to take on different roles? Did they all take an active part in the group activity?
- Did the activity move your student teachers' subject learning on? How do you know?

- Was the assigning roles strategy useful for improving student teachers' 'soft' skills (leadership/communication/collaboration/creativity)? How do you know?
- What are the advantages and disadvantages of managing group work this way?

Remember to write down your thoughts in your learning journal. Also note down what you learned from this session that was most effective in improving your teaching.



Introduction to Teaching Strategy 3

Types of Group Work

T4-3 i 1 Learning Objectives



By the end of the session tutors will be able to:

- Know different types of group work that you can do in the classroom.
- Plan different types of group work according to the learning activities in a lesson.
- Use different types of group work in your teaching to help student teachers learn effectively.

T4-3 i 2 Introduction



Pair and group work can be a very effective tool in improving the learning of your student teachers. As we saw in earlier teaching strategies, group work really benefits from careful planning, including selecting suitable activities, and setting group size and group composition. Another important aspect of group work is what we call the *type* of group work. The type of group work is about how the activities are allocated to groups. For example, all groups may be doing the same activity, or perhaps each group will do something different. Sometimes, you would like all students to engage with an activity that requires a particular piece of equipment, so you have to rotate what groups do. In the table below are some possibilities to consider. They can be used and adapted for many topics, and all subjects. More details about these ideas are given after the table.

Theme 4: Group Work Teaching Strategy 3: Types of group Work		
Aspect	How it works	Strand
Carousel of Activities or Carousel-Type Group Work	Here different activities are set up at separate 'stations' (e.g. on tables). Groups move from one table to another to do different activities.	T4-3B
Different Tasks Group Work	Each group has a different activity assigned to it. These might be completely different activities, or looking at different aspects of the same problem.	T4-3i

Jigsaw (Round One)	This strategy uses different task group work in round one with group members becoming experts in their particular task. The experts come together in the jigsaw group for round two and share their expertise. For complex topics the two rounds can be done over two sessions.	T4-3C
Jigsaw with Cross Grouping	Cross grouping is the second round of the jigsaw activity and in this part of the strategy all groups will be doing the same thing (same task group work).	T4-3A
Same task Group Work	All groups do the same activity. Sometimes it may be exactly the same activity, or only with minor variations (possibly looking at the activity from different perspectives).	T4-3i

Same Task Group Work

This involves asking all groups to do the same activity. You can ensure the learning experience for the whole class will be rich and varied by asking each group to explore a different perspective or way of solving the activity and to report back on this. For example:

- *“A farmer has a plot of land of size 30 metres x 20 metres. He has to plant 60 trees and 20 shrubs. Each group can give one suggestion for a pattern of planting to suggest to the farmer. Explain your suggestions with reasons. Please remember that the shrubs should not be shadowed by the trees so that they get light.”*
- *“New classrooms are being built for grades one and two in another rural area. Tables and chairs are needed for these classrooms. Give suggestions about the size and shape of the tables and chairs to the headmaster. Each group can give one suggestion for a table and a chair. Explain your suggestions with reasons.”*

Different Tasks Group Work

This involves asking each group to address different aspects of the same problem. Each group’s presentation is like a piece of the jigsaw that completes the whole picture. For example:

- *“The Ghanaian health minister has asked you to make handouts/pamphlets about diseases. The pamphlets will be distributed in hospitals to inform people about prevention of diseases. The diseases for which handouts are needed are: (a) Tuberculosis; (b) Malaria and (c) HIV/AIDS. Three groups will work on this, each on a different disease. In your group, consider which information you want to include and why.”*
- *“The local environment committee has observed that pollution is increasing in your area. They have asked you to find out the reasons for increasing pollution and suggest ways to decrease it. Prepare a*

presentation for different types of pollution: (a) air pollution, (b) water pollution, (c) noise pollution and (d) soil pollution. Four groups will work on this, each on a different type of pollution. In your group, consider which information you want to include and why."

A 'Carousel' of Activities

This involves having different activities for your student teachers to do, with each activity taking place at a certain table in the classroom. The groups thus move around the classroom and are given a certain amount of time to do each activity. This works particularly well if resources are scarce, eg when using ICT.

There are many other types of group work possible, and some of these are given below under Further Resources.

T4-3 i 3



Activity: Different Tasks Group Work - Make a Body

In your groups, have a brief chat (two minutes) to your tutor colleagues about each of the different group work aspects before moving on to the following different task group work activity.

In this activity you will work as a whole class to make a 2D body, complete with organs. Here are the steps:

- First of all ask a volunteer to lie down on a large piece of paper (or several pieces taped together) so that you can draw an outline of a body - this is where you will put your organs later.
- Next, each group draws a different organ (or a few organs) to scale - this is the different task bit of the activity.
- Finally everyone puts their organs on the body to end the task (use tape or blu tack).

Tutor Discussion

Afterwards, discuss with your colleagues:

- What was hard/easy to do in this activity?
- What learning did this activity allow to happen that is different from other group activities you have done?
- Did you think it was good activity to learn collaboratively? Why?

Make notes of your ideas in your learning journal.

T4-3 i 4



Plan and Practise Together

The next three sections have examples of different activities for different types of group work that can be used in all subjects. In your own planning, please use the introduction above if you need further information on the various aspects. Also note that the example provided in each section is just

for guidance. Do not spend too long on it, but move straight on to your planning activity.



In your planning, pay attention aware of the gender dynamics in your classroom, and creating an equitable learning environment for all students. Refer back to the gender section in the introduction to T4 and T4-1 if necessary

T4-3 i 5 Prepare for Teach and Reflect



Once you have planned your activity, come back together as a whole group, to see what issues arose. Make a note in your learning journal. After you have taught, write down your own observations and reflections on your activity plan and in your learning journal, and be prepared to share these with others at the start of the next session.

T4-3 i 5 Further Resources



More Types of Group Work

The Onion Ring

- Divide the student teachers into 'As' and 'Bs'.
- Instruct the As to make a circle and then to turn round (so they face outwards not inwards).
- Then ask the Bs to stand in front of each of the 'As'.
- Explain they will do a task where they ask each other questions.
- When you clap, the Bs have to move one space to the left (clockwise) to the next person and continue to ask and answer questions. the As do not move.
- Give each student teacher a handout e.g. a survey/questionnaire etc. Go over the handout and check understanding.
- Give them 15 minutes to ask and answer questions.
- Remember to clap loudly and make sure the Bs move to the left each time.
- Monitor carefully to ensure the Onion moves.

Mingling

Mingling is a type of pair work. For an example, see Creative Approaches, T1-1E.

- Use 'Find Someone Who...' (FSW) (see Creative Approaches: Games English) and go over the instructions.
- Make sure you check instructions e.g. what are you going to ask? How many names do you collect for one question? Etc.

- Allow your student teachers 15 minutes to mingle and find names for their FSW handout.
- After filling in the handout, elicit who found who and expand on the information by asking more questions.

Cross Grouping Also Known as Jigsaw

- Divide the student teachers into three groups using X, Y, Z.
- Distribute three different texts.
- Tell them they have to find the main points, (for example, what it is and how it is used) from their texts and make notes in a table.
- Explain after they have made their notes, that you will mix them up and they share their notes with the others. The aim is to complete the table by discussing with members of the other groups.
- Check understanding by asking checking questions.
- Give them 10 minutes to read and make notes. Monitor their work.
- Cross group them using 1, 2, 3.
- Allow 15 minutes for the groups to share their ideas and fill in the rest of the table.

T4-3 i 6 Sources



OER4Schools, *Same-task and different-tasks group work*, http://oer.educ.cam.ac.uk/wiki/OER4Schools/activities/Same-task_and_different-tasks_group_work, available under Creative Commons Attribution-ShareAlike 4.0

OER4Schools, *Supporting reasoning and managing group work*, http://oer.educ.cam.ac.uk/wiki/OER4Schools/Supporting_reasoning_and_managing_group_work, available under Creative Commons Attribution-ShareAlike 4.0



Teaching Strategy 3 - Strand A

Types of Group Work: Jigsaw with Cross Grouping

T4-3 A 1 Example



How Ms Abu Used Group Work to Revise 'Burning Grass' With Her Student Teachers

Remember Ms. Abu, in her previous lesson in the Literature class on the 'Burning Grass'? This time she wants to do a review of the entire book to prepare her students for the upcoming semester exams. She decides to put her student teachers into groups to let them revise the book in a co-operative and collaborative way. She prepares a worksheet (see below) with questions covering all the aspects of the book, such as, characterisation, point of view and use of language, the plot and setting and the different themes. Let us now see how she structures her class for the group work.

- Group 1: Look at 'characterisation' in the 'Burning Grass'
- Group 2: Look at 'point of view and use of language'
- Group 3: Look at 'plot and setting'
- Group 4: Look at 'different themes'

Ms Abu distributes the worksheet to each of her student teachers (if you are unable to do this due to lack of resources, write the worksheet questions on the board for them to copy into their books). She instructs each group to discuss and answer the questions for their given area.

Revision/review Worksheet for 'Burning Grass'

1. Characterisation

Who are the main characters in 'Burning Grass'?

What are their roles and what is the importance of these roles?

2. Point of view and use of language
How do you think the author feels about the key characters in the book?
How do you know this? (How does the author use language to convey different meanings and ideas?)
3. Plot and Setting
How is the plot developed?
Does the setting help in the development of the plot? How?
4. Themes
What are the key themes developed in the book?
Are the themes relevant today? How?

After ten minutes, she cross groups them. She does this by numbering each student 1, 2, 3, 4. She then allocates tables for Groups 1, 2, 3 and 4. She asks everybody in Group 1 to sit at table one, everybody in Group 2 to sit at table two and so on. In their new groups they must share and discuss the answers to all the questions.

Tutor Discussion



1. What do we call this type of group work?
2. What are the advantages to using this type of group work?
3. What type of activities is it useful for?

T3-4 A 2 Plan and Practise Together



Types of Group Work Across the Curriculum

You are now going to plan your own 'Jigsaw' activity and 'Cross-Grouping' work arrangement. If the above examples fit what you are teaching, you can use them. However, you may well be teaching something else, so here are some more ideas from various subjects that lend themselves to 'Jigsaw' and 'Cross-Grouping'.

Categories of Special Needs Children (Educational and Professional Studie - EPS 221)

Design a worksheet suitable for the group formation 'Mingling', for example, 'Find Someone Who...'.
Go through the instructions for this type of grouping.

Techniques for Teaching HIV/AIDS (HIV/AIDS Education - GNS 212)

Look at the various types of grouping and the one which would be appropriate to use in your class.

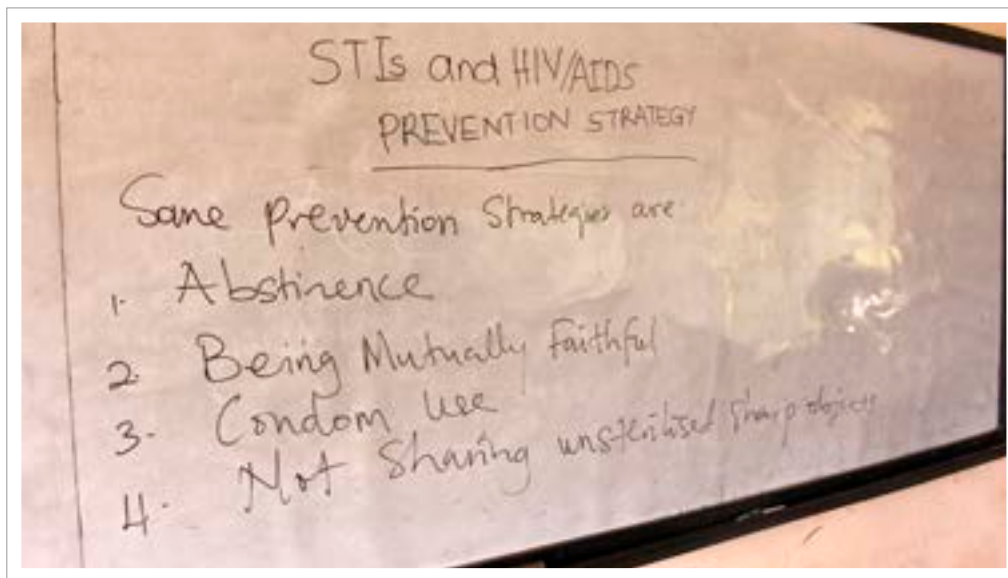


Figure 14. HIV/AIDS: Ideas for cross grouping

Theories of Performing Arts Learning (Music and Dance - PRA 221)

You have gone through the various types of grouping. Select and use one of them which is suitable for the topic and the activity you are designing for the topic.

Plan Your Own Jigsaw and Cross-Grouping Activity

Can you use any of the above ideas? Hopefully the above topics give you an idea of how you can design an activity for use in your classroom. But, as usual, it is possible that those ideas do not fit, and you will need to identify a topic that fits into your weekly lesson forecast.

At the end of the planning activity you should have developed an activity plan that you can use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to



practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.

T3-1 A 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T3-1 A 4 Reflect Together



Types of Group Work

Now that you have tried different types of group work with your student teachers, share your reflections with the group.

- Did you do a 'Jigsaw' and 'Cross-Grouping' activity? If so, did it work as you thought it would?
- Did you do another type of group work activity? How did your student teachers respond to working this way?
- The 'Onion Ring' and 'Mingling' are two other types of group work (see *Further Resources*). Can you see any potential problems using these with your student teachers based on your recent experience?

T3-1 A 5 Further Resources



More Types of Group Work

It is important to make it clear to your student teachers that you are using 'Jigsaw' as your input activity (e.g. you give different groups, different tasks) and then you use 'Cross- Grouping' to change the work arrangement so that your student teachers can share their different information.

Cross-Grouping

'Cross Grouping' is a co-operative work arrangement where participants are put into a first group and then regrouped into a second group. In the first group, everyone is split into, say, six groups of five members each. The six groups all work on different aspects of the same topic – no two groups are working on the same thing. Everyone in the group takes notes. Then the facilitator regroups the participants into five groups of six – one member from each of the original six groups becomes an 'ambassador' for his/her group in the new group.

First Group:	11111	22222	33333	44444	55555	66666
Second Group:	123456	123456	123456	123456	123456	

The advantage of this work arrangement is that the reporting back from the first group happens in another group, not as a plenary report-back session which is often boring and repetitive. This way, certain 'strong' participants are not able to dominate the forum; everyone must speak because everyone has a different piece of the jigsaw puzzle to contribute; there are no 'passengers'. In addition, a lot more information can be covered; each of the first groups become 'expert' in one piece of information and they then relay their new knowledge to the members of their second group. There are also confidence-building aspects to this co-operative work arrangement: each member of the second group has something unique to contribute to the group - they have a real role to play.

The Onion Ring

- Divide the student teachers into As and Bs.
- Instruct the As to make a circle and then to turn round (so they face outwards not inwards).
- Then ask the Bs to stand in front of each of the As.
- Explain they will do a task where they ask each other questions.
- When you clap, the Bs have to move one space to the left (clockwise) to the next person and continue to ask and answer questions. The As do not move.
- Give each student teacher a handout e.g. a survey/questionnaire etc. Go over the handout and check understanding.
- Give them 15 minutes to ask and answer questions.
- Remember to clap loudly and make sure the Bs move to the left each time.
- Monitor carefully to ensure the Onion moves.

Mingling

- Use 'Find Someone Who...' (FSW) (see Creative Approaches: Games English) and go over the instructions.
- Make sure you check instructions e.g. what are you going to ask? How many names do you collect for one question? etc.
- Allow your student teachers 15 minutes to mingle and find names for their FSW handout.
- After filling in the handout, elicit who found who and expand on the information by asking more questions.

For an example of 'Mingling', see Creative Approaches T1-1E.



Teaching Strategy 3 - Strand B

Types of Group Work: Carousel of Activities

T4-3 B 1 Example



How Miss Hilda Structured Activities for Group Work in Mathematics

Miss Hilda is a tutor at a College of Education in the Northern Region. Her classes are large, and have over 70 student teachers. She faces an additional challenge: the acoustics in the classrooms are not very good which means that not everyone can hear what is said during whole class teaching or discussion. Miss Hilda tells us what she plans to do.

Apart from bad acoustics in the classrooms and the large number of student teachers, one of the other things I would like to address is how to involve all of them in the learning activities, especially the girls. The classroom furniture exists of single desk and chair units, and they are normally arranged in rows. I have used pair and group work before where I ask the student teachers to work with their neighbours (for pairs) or ask them to move the furniture so that they can work in groups of four.

I read about this 'Carousel of Activities' strategy which involves having different activities for your student teachers to do, with each activity taking place at a certain table in the classroom. The groups move around the classroom and are given a certain amount of time to do each activity. I thought it would work really well for the revision and preparing for exam lesson I wanted to do for the 'Geometry and Trigonometry' course (eg. lines and angles, polygons, geometrical construction including loci, circles and circle theorems, FDC 122, units 1-3). For this, I will ask the student teachers to help me rearrange the classroom by moving some of the furniture so that they make 'islands'. Ideally I will get groups of about 6 people, but I might have to be flexible about that – it depends on how many student teachers will be present.

I find lessons on preparing for exams somewhat tricky and often boring: more repetition at break neck speed, practise lots of past exam questions, little time to address the questions of the student teachers so I end up not inviting questions! I am really not sure how much they learn from this, and I doubt it gives them confidence. So I searched the internet for ideas on how to prepare your class for exams. An idea I really liked and that I will try out in the 'Carousel of Ideas for Revision' is this (see box).

Carousel of Ideas for Revision

Tell your student teachers the following:

- Take your past examination papers.
- Find the questions that you think relate to the mathematics you are supposed to revise and practise.
- In what way are those questions the same or different? For example, would you use the same approach in solving them?
- Now identify the questions you get stuck on, and which you can do without difficulty.
- Look at the questions you get stuck on. What is it in those questions that makes you get stuck? For example is it the phrasing? The terminology? Not knowing what to calculate or how to do the calculation?
- Discuss in your group how you could get unstuck.
- Make sure you write down, in your learning journal, the ideas that work for you to get unstuck, so you can use these when you are revising on your own.

Then, if you have time:

- Pretend you are an author of examination questions. Can you come up with three new questions on this topic that could be used in the examination – one easy, one medium and one hard? Make sure you can also provide the answer.

I will have these same questions in each island, but in the context of the different topics. I think I will have more islands than topics, so some islands might have the same topic. Each group will work at one island for 15 minutes, then I will ask them all at the same time to move on to the next island. I will probably continue with this in the next lesson. On the other hand, even if they do not finish all the topics, I think the student teachers will have learned a useful strategy to tackle revision that they can also use when revising on their own or with some friends.

As my class is so large and the acoustics so bad, I will give each island 2 sheets of paper to present their feedback, as shown on the piece of paper.

The question is...	Idea to get unstuck
Examples of more exam questions	

At the end of the lesson, the student teachers can put these papers on the walls for all to see, copy ideas or take pictures with their phones to help them with their revision.

Tutor Discussion



Discuss with your colleagues:

- Do you have issues like Ms Hilda has in her classroom that would benefit from using the 'carousel of activities' strategy?
- What do you think are the benefits of structuring group work like this?
- Ms Hilda said "... even if they do not 'finish' all the topics, I think the student teachers will have learned a useful strategy to tackle revision that they can also use when revising on their own or with some friends." Do you agree with her? Why?

T4-3 B 2 Plan and Practise Together



Carousel of Activities

You are now asked to plan your own carousel activity. If the above example fits what you are teaching, you can use it. However, you may well be teaching something else, so here are four more ideas that lend themselves to structuring activities for group work by using the 'Carousel of Activities' strategy :

Triangular Numbers, Square Numbers and Calendar Numbers (Maths - FDC 222)

Use different-task group work and set it up as a 'Carousel of Activities' to find the relationship between triangular numbers and square numbers, and calendar numbers (3x3 and 4x4).

- Stations 1 and 2: what are the general formulae for triangular numbers and square numbers? Can you find a relationship between them?
- Stations 3 and 4: draw a sequence of triangular and square numbers. Now find a way of describing the relationship between triangular and square number sequences by focusing on what you can see is different and what is the same in this visual representation.
- Stations 5 and 6: draw some sequences of 3x3 and 4x4 calendar numbers. Now find a way to describe the relationship between 3x3 and 4x4 calendar numbers by focusing on what you can see is different and what is the same in this visual representation.

Reference: 2014 DBE Further Algebra, FDC 222, Unit 1, p. 210.

Exam Preparation in Maths (Maths)

Use the same instructions as in the 'Carousel of Activities' in the example above at the end of any course as exam preparation .

Reference: 2014 DBE - any maths course and unit.

The Role of Computers in Education (ICT - GNS 211)

Use different-task group work and set it up as a carousel activity to find the role of computers in education. For example one half of the stations considers the possible purposes of using computers in education, the other half of the stations investigate the barriers to using computers in education and ideas for how these can be overcome.

Reference: 2014 DBE Introduction to Information Technology 1, GNS 211, Weeks 1 & 2, p. 300.



Figure 15. Detail of *Aeonium tabuliforme* showing the multiple spiral arrangement

Elements of Design (Vocational Skills - FVA 111)

Set up as a 'Carousel of Activities' several group work tasks that ask the student teachers to explore the classification of elements of design. For example:

- Stations 1 and 2 make posters on 'Design principles we can find in natural elements - flora'
- Stations 3 and 4 make posters on 'Design principles we can find in natural elements - fauna'

- Stations 5 and 6 make posters on 'Design principles we can find in man-made elements'. Reference: 2014 DBE Fundamentals in Visual Arts, FVA 111, Unit 2, p247.

Plan Your Own Classroom Carousel Activity

Can you use any of the above ideas? If not, consult your syllabus and choose a topic from a lesson you will teach next week where you can use the "Carousel of Activities" strategy. Plan in detail the tasks, how you will set up the classroom and what instructions you will give. You can use the activity plan in the appendix.

In planning a 'Carousel' activity, you have to make sure you limit the time spent on each activity and move the groups on at the same time. In your planning, identify how much time you will give to each activity.

- At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.

Please make sure that you have noted down everything you need to remember for your lesson in your activity plan.

T4-3 B 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-3 B 4 Reflect Together



Carousel of Activities

Now that you have used different strategies for structuring group work, reflect on how it went. If at all possible, do the reflection together with a colleague who has also tried this .

In your reflection, consider the following questions:

- Where there any responses from your student teacher that you had not expected or that surprised you? If so, why do you think these happened?

- Did all your student teachers participate in the carousel work arrangement? Did female and male students participate equally? If not, how can you improve the situation next time?
- What progress have they made in their learning through these activities?

T4-3 B 5 Sources



TESS-India, *Hands on learning and embodiment: constructions in geometry*, http://www.open.edu/openlearnworks/pluginfile.php/134992/mod_resource/content/2/SM09_V2_PDF.pdf, available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>; unless identified otherwise).

Image: Detail of Aeonium tabuliforme showing the multiple spiral arrangement. https://en.wikipedia.org/wiki/Golden_ratio#/media/File:Aeonium_tabuliforme.jpg, by Max Ronnersjö, CC BY-SA 3.0.



Figure 16. Groups of student teachers working on a variety of tasks in a class

Teaching Strategy 3 - Strand C

Types of Group Work: Different Tasks (Jigsaw Round One)

T4-3 C 1 Example



Using Different Tasks Group Work in Science

Different tasks group work, whilst an activity in itself, can also be used for 'Round One' of the 'Jigsaw' method. 'Round Two' of the 'Jigsaw' method involves reporting back from different tasks group work and we will do that in the next session.

The 'Jigsaw' method is a type of group work that relies on co-operation and the principle of positive interdependence (linking student teachers together so that group members need each other to succeed); it emphasises individual accountability and achievement of group goals. Student teachers' attitudes to lessons and to each other improve when they use the 'Jigsaw' method and it can raise attainment. It is a useful technique for differentiating instruction (the level of challenge of activities/tasks can be varied) and it can work well with any size of class, even large ones.

In round one of the 'Jigsaw' method, groups have different tasks. For example, to solve a problem or get to grips with a piece of written work or an experiment. Group members work co-operatively on their activity with the aim of understanding it well (becoming experts at it). In round two (which is essentially the same task group work) 'the experts' are responsible for peer-teaching this information to their jigsaw group mates. In this example we focus on round one of the technique and we deal with round two in the 'Reporting Back from Group Work' session.

Salifu is a science tutor teaching a class of forty student teachers in a College of Education in the Brong Ahafo region. Salifu realises the importance of group work and he uses it occasionally. In a recent professional development session, Salifu encountered the jigsaw technique for group work. He is excited as this one could actually save him some time and resources (if he can figure out a way of fitting experiments in) and be beneficial for his student teachers at the same time. But it is going to take some planning.

Working Out the Activities That the Groups Will Do

Tutor Salifu divides the 'nature of soil' topic up into five activities/sub topics of equal 'weight', one for each group in round one:

1. **Activity one:** experiment to demonstrate that soil is made up of minerals, air, water and living organisms.

2. **Activity two:** experiment to demonstrate separation of soil into gravel, sand, silt, clay and organic fractions.
3. **Activity three:** functions and uses of soil.
4. **Activity four:** physical properties of soils and their importance.
5. **Activity five:** soil profile, meaning, descriptions and importance.

Working Out How to Form the Groups for the Jigsaw

Tutor Salifu thinks ahead to round two of the technique to make sure the group sizes will be manageable and so that he knows how many groups will be doing each activity. He also thinks about the cards he will give to his student teachers to help the activity run smoothly.

This is how he works the group sizes out:

- number of student teachers = 40;
- number of activities/subtopics = 5 (this will be the number of student teachers per group in second round);
- number of student teachers per subtopic = $40/5 = 8$ (better to have two groups of 4 working on the same subtopic than one group of 8 so use A, B, C, D for one group of 4 and E, F, G, H for the other);
- number of student teachers per group = 4 in first round (5 in second round)
- number of groups in first round of jigsaw = number of subtopics $\times 2 = 5 \times 2 = 10$ (1 to 5 have A, B, C, D and 6-10 have E, F, G, H).

Here is a picture representation of the groups:

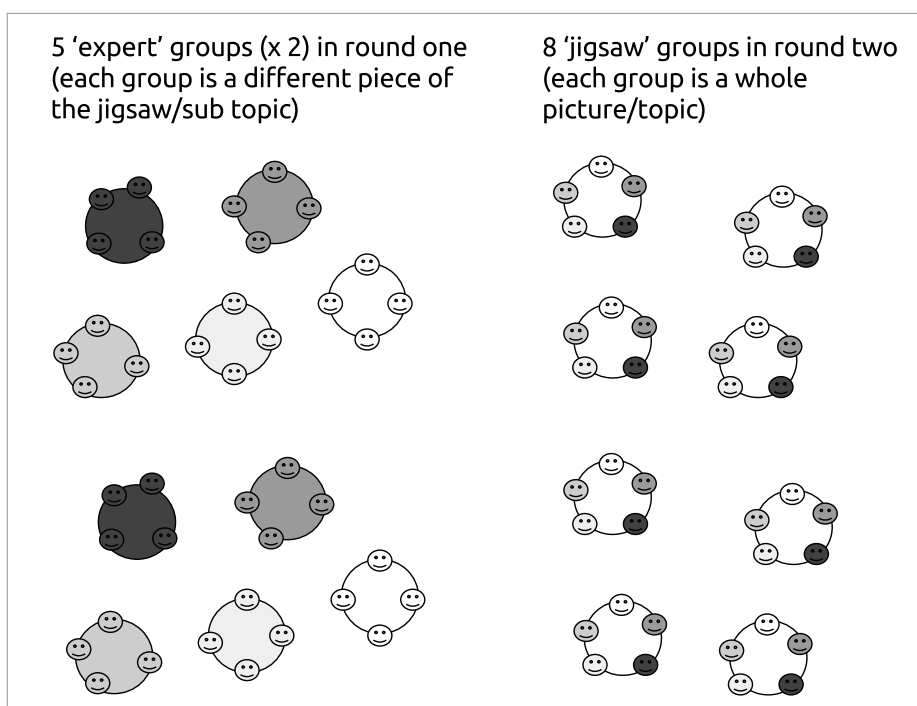


Figure 17. How to arrange round one and round two groups in a 'Jigsaw' activity

Salifu prepares cards (pieces of plain sheets will do) and writes on each card a number on one side and a letter on the other eg 1 and A for a person in group 1 and group A in the first and second rounds respectively.

Second round groupings will take place next week - and be group of experts (composed of one member each from the first round groups).

Round One of Tutor Salifu's 'Jigsaw' Activity on the Nature of Soil

Salifu first puts the student teachers into their 'Jigsaw' groups (8 groups of 5; letter groups) and he passes around the cards letter side up to the different groups. He briefly describes to the whole class the different activities around the main topic as per his plan and he reminds the student teachers that they will each be 'teaching' or 'presenting' the activity that they choose to become an expert in to their jigsaw group in the next session. He reminds them of the 'Talk Like an Expert Task' they did a few weeks ago and tells them that they should aim to use scientific vocabulary when reporting back.

Within the 'Jigsaw' groups the student teachers decide who will go off and become an expert in which activity and they take the card that corresponds to the number of the activity that they will be working on. This initial step of the technique enables group members to develop a sense of responsibility towards each other. The student teachers then reconfigure as the expert groups (10 groups of 4; number groups) and begin working on their chosen activity. Salifu checks that all student teachers in the same group have the same number on their card but a different letter on the back. He encourages the two groups that are working on the same activity to work near each other so that they can share ideas. As work gets underway he moves around the class monitoring progress and offering help where needed.

Salifu puts a completed Jigsaw Formation Table from his professional development notes on the board for his student teachers to refer to.

Jigsaw Formation Table (expert groups - round one)					
The Jigsaw groups are A B C D E F G H.					
The expert groups are 1 2 3 4 5 6 7 8 9 10.					
groups	group 1	group 2	group 3	group 4	group 5
members	1A 1B 1C 1D	2A 2B 2C 2D	3A 3B 3C 3D	4A 4B 4C 4D	5A 5B 5C 5D
sub topics	composition of soil	separation of soil into gravel, sand, silt, clay and organic fractions	functions and uses of soil	physical properties of soil and their importance	soil profile, meaning, description and importance

members	6E 6F 6G 6H	7E 7F 7G 7H	8E 8F 8G 8H	9E 9F 9G 9H	10E 10F 10G 10H
groups	group 6	group 7	group 8	group 9	group 10

Figure 18. Jigsaw formation

Here is what is happening in the groups:

Groups 1 and 6 do activity 1: Samples of garden soil, beakers, crucibles and water are provided for their experiment. Each group member heats a small amount of the soil in the crucible and observes what happens. If they observe smoke coming out of the soil, that indicates the presence of living things in the soil. If they see vapour coming out from the soil upon heating that indicates the presence of water in the soil. Pouring a small amount of water into a sample of dry garden soil in a beaker and observing bubbles from the soil indicates the presence of air in the soil.

Groups 2 and 7 do activity 2: Samples of garden soil, graduated cylinders (1000 ml) and water are provided for their experiment. Each member of the group pours an amount of soil into their cylinder up to about 650 ml and then adds water up to about 900 ml. They then stir or shake the mixture well, allow it to settle and then do their observations. As they observe they can now see the particles of the soil settling in layers according to the sizes of suspended matter - silt clay sand and gravel - from the top to the bottom of the cylinder.

Groups 3 and 8 do activity 3: The student teachers read a handout given to them by the tutor to help them explain the functions and uses of soil such as; for crop growth, construction of farm buildings, clay for ceramics, tiles, pots etc. and the importance of soil as an abode for living organisms. They discuss it in detail and ensure that each person really understands what they are studying and make notes of it to be shared with members of other groups in the second round.

Groups 4 and 9 do activity 4: The student teachers in these groups are reading a handout that tutor Salifu has given them about the structure and texture of soil and its role in crop production. They are going to come up with a list of bullet points that they will share in the second round of the 'Jigsaw'. They will make sure to include details about soil air, soil temperature and soil organic matter.

Groups 5 and 10 do activity 5: These groups are looking at images of soil profiles.

Their task is to identify the different horizons in the soil profiles and to compare and contrast these. They should sketch the images and write a few bullet points on the differences in the colour, texture, porosity, depth, and organic matter content between the two profiles.

DBE syllabus reference: "Nature of soil" (FDC114, *Integrated Science 1*, Agriculture, Unit 1).



Figure 19. Using cards to keep track during a 'Jigsaw' activity

Tutor Discussion



Think of how to organise the groups for a class of 46 student teachers with the same number of activities. Use Salifu's group sketches and planning notes to help you.

Here is an empty table that you can use.

round 1							
members							
activity number	1	2	3	4	5	6	7
members							
round 1							

What resources will Salifu need to bring to the lesson for round 1 of the 'Jigsaw'?

- For activity 1 he will need two lots of ...
- For activity 2 he will need two lots of ...
- For activity 3 he will need two lots of ...
- For activity 4 he will need two lots of ...
- For activity 5 he will need two lots of ...

What drawbacks do you anticipate when using this technique? Is Salifu right, can the 'Jigsaw' method save time and resources?

What different ways can Salifu give the groups the instructions for their task? What are the advantages and disadvantages of these?

If the level of demand of the activities is varied to allow for differentiation by task, how can you make sure that the student teachers become experts in the task with the right level of challenge for their ability? Is it important to do so? Why?

T4-3 C 2 Plan and Practise Together



Different Tasks Group Work

Look at the the other jigsaw examples suggested. These examples have been chosen because they will work well with the technique.

Jigsaw on Erosion (Integrated Science - FDC 214)

DBE syllabus reference: "Soil and water conservation" (FDC214, *Integrated Science*, Agriculture, Unit 1).

Jigsaw on Developmental Games (PE - PRA 122)

Reference: "Developmental Games (skill themes)" (PRA122, *Foundations of Physical Education*, Unit 7)

Devise activities for the following games:

6. Balancing
7. Kicking
8. Dodging
9. Volleying
10. Dribbling

Jigsaw on the Impact of HIV/AIDS (HIV/AIDS Education - GNS 121)

Reference: "HIV and AIDS: Impact on the Individual, Family, Community and Nation" (GNS 121, *HIV and AIDS Education*, topic 9)

Jigsaw on Multimedia Elements (ICT - GNS 221)

For example: text, graphics, animation, audio and video.

Reference: "Multimedia, multimedia and the web" (GNS221, *ICT2*, Week 11)

Jigsaw on Differentiating Between Storage Media and Storage Devices (ICT - GNS 221)

Reference: 2014 DBE syllabus GNS 221, unit 1, p. 307

Planning Your Own Different Tasks Group Work Activity



Choose a suitable a topic from a lesson you will teach next week and plan a range of different tasks to cover the lesson content. Note the tasks in an activity plan; you can find the activity plan template in the appendix. Also write in your plan other planning details (resources needed etc.) that will help you to do the round one of the 'Jigsaw' activity successfully with your student teachers.

Make sure to include notes on the following:

- How many groups you will have in round one of the jigsaw activity and what activities they will do.
- How many student teachers will be in each group, taking into account their individual needs.
- How you will adjust your plan if some student teachers do not turn up to the lesson.
- What will those groups that finish first do whilst other groups are still finishing their tasks?
- What student teachers need to do before the next lesson (for example finish something off for homework if they did not finish it in class). What student teachers need to bring to the next lesson for round two of the activity.

Make sure that the example you chose does not have concepts that are difficult to grasp as just getting to grips with the technique is challenging enough. It may be helpful to sketch out the group formations as part of your planning. Remember that different tasks group work is round one of the 'Jigsaw' method. We will plan round two of the technique in the next session.

Use the following table to help you plan the groups (for a more detailed explanation of how Salifu organised his groups for the jigsaw activity see 'How to organise groups for the 'Jigsaw' activity' in Further Resources below):

round 1							
members							
activity number	1	2	3	4	5	6	7
members							
round 1							



At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to practise the

activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.

T4-3 C 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-3 C 4 Reflect Together



Different Tasks Group Work

Now that you have done different tasks group work with your student teachers, reflect on how it went. Do the reflection together with colleagues who also tried the activity.

In your reflection, consider the following questions:

- Were the tasks pitched at the right level of challenge for the abilities of the group members? How do you know?
- Did all groups finish their tasks at the same time?
- Did you have groups working on the same task? If so, did they collaborate? Why?
- Did student teachers make good use of the resources that they had within their groups?
- Did having a sense of shared responsibility (all working on the same goal) yet individual accountability (each one to report back to different jigsaw groups) make any difference to how expert group members worked together?
- How confident are you that 'the experts' are ready for round two of the activity next week?

Remember to write down your thoughts in your learning journal. Also note down what you learned from this session that was most effective in improving your teaching.

T4-3 C 5 Further Resources



Organising groups for the jigsaw activity and carousel technique as an alternative

How to organise groups for the jigsaw activity

Here is the grid and the steps that Salifu takes in T4-3S to help him work out the groups for rounds one and two of the jigsaw activity:

Decide how many activities (or sub topics) you want the class to study (5 in this case) and draw a line like so:

round 1							
members							
activity number	1	2	3	4	5	6	7
members							
round 1							

The number of round 1 (expert) groups must either be the same as the number of activities (class size < 25) or twice as many as the number of activities (class size > 25), depending on the class size. This is to ensure that the groups are not too big but also to make sure that there will be enough groups to draw the experts from for round 2 of the technique.

Write the group numbers in like so:

round 1	group 1	group 2	group 3	group 4	group 5		
members							
activity number	1	2	3	4	5	6	7
members							
round 1	group 6	group 7	group 8	group 9	group 10		

To work out the number of round 2 (jigsaw) group members divide the number of student teachers by the number of round 1 (expert) groups, in this case $40/10 = 4$. Use the first 4 letters of the alphabet (A,B,C,D) for the first 5 groups and the next 4 letters of the alphabet for the next 5 groups (E,F,G,H). This ensures that the groups for round 2 are not too big:

round 1	group 1	group 2	group 3	group 4	group 5		
members	A B C D	A B C D	A B C D	A B C D	A B C D		
activity number	1	2	3	4	5	6	7
members	E F G H	E F G H	E F G H	E F G H	E F G H		
round 1	group 6	group 7	group 8	group 9	group 10		

Note that in dividing your student teachers, you may get a remainder, e.g. $42/10 = 4$, **remainder 2**. In that case distribute that number of student teachers equally across the groups assigning the same card twice as often as needed - do this strategically taking in to account individual student teachers' needs. You will end up with some groups that have for example A1 A1 B1 C1 D1 (A1 is the extra person in this group).

There will be 8 groups in the second round (A B C D E F G H) with 5 expert members each (4 groups will have members from groups 1 2 3 4 and 5 and the other 4 groups will have members from groups 6 7 8 9 10).

Using the carousel technique as an alternative to round two of the jigsaw technique

An alternative to doing round 2 of the jigsaw method is to do a carousel of the first round activities. In this case, instead of forming new groups for the second round, the groups remain unchanged and what *is* changed is the activity that the group does. This is illustrated using the first round groups/activities from T4-3S.

Carousel round 1 (Jigsaw round 1)

- group 1 does activity 1
- group 2 does activity 2
- group 3 does activity 3
- group 4 does activity 4
- group 5 does activity 5
- group 6 does activity 1
- group 7 does activity 2
- group 8 does activity 3
- group 9 does activity 4

- group 10 does activity 5
- ...

Carousel round 2

- group 1 does activity 2
- group 2 does activity 3
- group 3 does activity 4
- group 4 does activity 5
- group 5 does activity 1
- group 6 does activity 2
- group 7 does activity 3
- group 8 does activity 4
- group 9 does activity 5
- group 10 does activity 1
- ...

So, by the end of round two of the carousel all groups will have done 2 activities. Round 3 sees the groups rotate again and so on and so on, round and round like a carousel!

Carousel round 3

- group 1 does activity 3
- group 2 does activity 4
- group 3 does activity 5
- group 4 does activity 1
- group 5 does activity 2
- group 6 does activity 3
- group 7 does activity 4
- group 8 does activity 5
- group 9 does activity 1
- group 10 does activity 2
- ...

Typically the groups move from activity to activity until all groups have completed all five activities.

Discuss the advantages and disadvantages of this alternative type of group formation. When might it be useful to do an activity of this nature? Perhaps



you could organise your thinking on this by doing a PMI of the advantages and disadvantages of each technique (jigsaw vs carousel). Don't forget to include something interesting in your PMI table as this might be the piece of information to make you change your mind.

Introduction to Teaching Strategy 4

Reporting Back from Group Work

T4-4 i 1 Learning Objectives



By the end of the session tutors will be able to:

- Understand the role of effective feedback to improve the learning of student teachers.
- Plan activities that can be used in any subject to encourage learning through reporting back from group work strategies.
- Use these teaching strategies in their classrooms to help their student teachers learn more effectively.

T4-4 i 2 Introduction



How your student teachers share what they have learned in group work can offer great learning experiences for both the group and the rest of the class. If done well, reporting back provides opportunities for:

- the whole class to learn from each other;
- the whole class to build on each other's contributions which helps them to deepen their understanding;
- student teachers and their groups to summarise and synthesise what they have learned (which helps them to develop their understanding further); and
- student teachers and their groups to think of how best to present what they have learned (which helps them to develop their presentation and teaching skills).

If not done well, asking groups to report or present their findings will mean that the others are simply listening, or even not listening at all. Especially when reporting back from same-task group work, there can be a lot of repetition, and whole process can be boring and very time consuming.

In this teaching strategy, we will try out different ways of reporting back from group work, to make sure that learning continues to take place. You will have to think carefully about what strategy to use and when.

As we discussed previously, working in groups and pairs is about learning collaboratively. Reporting back widens the collaborative learning that one group has done to other groups, and potentially to the whole class. You might find this statement surprising: reporting back can be one group reporting back to another, and not necessarily involve a whole class discussion. Another aspect of feedback is who from a particular group should be reporting back. Should it be just one person reporting back per group? Or do different group members report on different things? As with all classroom interaction, reporting back requires your student teachers to

think and communicate clearly, including opportunities for posing questions, to challenge ideas and to air misunderstandings.

The table below offers some strategies and activities that can help you in getting variety in the way your student teachers are asked to report back from their group work that will help the learning of the whole class. They can be used and adapted for many topics, and all subjects. More details follow after the table.

Theme 4: Group Work		
Teaching Strategy 4: Reporting Back From Group Work		
Aspect	How it works	Strand
Participatory Feedback	This concerns activities that encourage everyone in the class to participate actively when reporting back from group work.	T4-4B
Groups Report Back to Groups or in Pairs	Rather than (one person from) one group reporting back to the whole class, groups report back to other groups or peer-review each other's work. The same can be done for pair work.	T4.4i
Individuals Report Back to Groups	Members of a 'Jigsaw' group go off and become experts in one part of a topic. Individuals then return to report back and share their knowledge with the jigsaw group.	T4-4C
Using Posters or Other Group Outputs to Share Ideas	Activities and ideas on how to vary and improve the quality of reporting back from group work by using posters or other group outputs e.g. essays. Groups can vote of each other's work.	T4-4A
Using Role Play	This is about asking your student teachers to report back on their findings by using role play. Clear instructions on what is expected are needed for this to be good learning experience for all.	T4-4i
Using Audio or Video	Ask student teachers record/film their work. It is a more extended form of feedback, similar to role play, that might lend itself to longer project work.	T4-4i

Participatory Feedback

To encourage everyone in the class to participate actively, you could:

- Ask only two of the groups to present their findings. Do not say in advance which groups will report – this will keep all of the groups engaged. When the two groups present their findings, the other groups then have to add their own ideas, but they are not allowed to

repeat what has already been said. This will mean that all the groups have to listen actively and identify what has been said already.

- Ask the groups to report back in the style of a 'Facebook Wall' or 'Twitter feed'. You decide the limitations: five sentences, one minute, 140 characters ... You could also use the prop 'the magic microphone' to make this even more engaging.
- Ask groups to identify one issue or aspect that they want to focus on in their group feedback. At the same time you request that this feedback is done in an interactive way, involving all the other participants. At the end of the feedback, the extent of how interactive this was is discussed so that everyone gets ideas about how to make a workshop interactive.

Groups Report Back to Groups or in Pairs

Rather than (one person from) one group reporting back to the whole class, groups report back to each other. A variation of this could be swapping groups' work for peer review.

This is similar to 'Sharing in Pairs' where you ask your student teachers to report back in pairs. For example they share their work and peer review.

Using Posters to Share Ideas

Ask your student teachers to record their ideas on posters and put these on the walls. This can help to keep the thinking process and ideas 'live' for as long as the posters are displayed. More ideas for using posters are:

- Tell the student teachers to take pictures of the posters to capture what has been shared if they can.
- Ask the student teachers to vote for the poster they think is best, for example the one with the clearest explanation, best design for learning, best ending of a story.
- To structure the responses you could give a 'Writing Frame' or a table with headings that have to be followed.
- To improve the quality of the posters you can organize an exhibition of the posters (or the student teachers stories, designs, etc) and invite the principal, other classes to view. Bear in mind that this could increase the time student teachers need to prepare their poster.
- You could make the exhibiting of their work optional, it is their choice if they want to take part or not.

Using Role Play

This is about asking your student teachers to report back on their findings by using role play. Please bear in mind it can be time consuming in preparation time and is therefore perhaps better suited to longer project work. It is important to have the scenarios prepared, for example, by printing them out on card or paper beforehand. An example of such a scenario could be:

'Imagine you are members of the Council for Scientific and Industrial Research and you have to decide on whether to fund research into the effects of global warming on the tuna canning industry in Ghana, or the effects of open pit mining in Ghana. Prof. Edward Ayensu, economist and scientist will be chairing the meeting. Prepare your arguments for and against and report these as the discussion would go in the Council.'

Using Audio or Video

Ask student teachers record/film their work. This works particularly well to feedback on micro-teaching or peer teaching in class. Use the film/recording to discuss strengths and where more work needs to be done. It is a more extended form of feedback, similar to role play, that might lend itself to longer project work.

Parking Questions

Questions from your student teachers during reporting back can derail you from staying focused on your objectives. On the other hand, asking questions should be promoted. One technique to deal with this is asking your student teachers to write down their questions on a card and put it in the 'question box' so it can be dealt with it later, when it fits better into the classroom interaction. Alternatively your student teachers can be asked to 'park' their questions on a big sheet on the wall.



Figure 20. Reporting back from group work

T4-4 i 3 Activity: Optimizing Learning Potential When Reporting Back from Group Work



In small groups, first talk to your tutor colleagues about the different aspects of reporting back from group work. Then decide as a whole group which reporting back strategy you will use for addressing the following question in your group:

- *How can you optimise the learning opportunities from groups of student teachers reporting back to the whole class on what they have learned?*

Address the question in a way that fits with your selected reporting back strategy. Then report back to the whole group in the way agreed.

Afterwards discuss with your colleagues:

- Did the reporting back strategy that you used work well for you? Why yes, or why not?
- Did you develop your understanding further by using this reporting back strategy? Why do you think that happened (or not)?

Make notes of your ideas in your learning journal.

T4-4 i 4 Plan and Practise Together



The next three sections have examples of different activities for reporting back from group work that can be used in all subjects. In your own planning, please use the introduction above if you need further information on the various aspects. Also note that the example provided in each section is just for guidance. Do not spend too long on it, but move straight on to your planning activity.



In your planning, pay attention aware of the gender dynamics in your classroom, and creating an equitable learning environment for all students. Refer back to the gender section in the introduction to T4 and T4-1 if necessary

T4-4 i 5 Prepare for Teach and Reflect



Once you have planned your activity, come back together as a whole group, to see what issues arose. Make a note in your learning journal. After you have taught, write down your own observations and reflections on your activity plan and in your learning journal, and be prepared to share these with others at the start of the next session.

T4-4 i 6 Sources



TESS-India, *Running an effective participatory interactive workshop*, http://www.open.edu/openlearnworks/pluginfile.php/159529/mod_resource/content/3/TEGN_Workshop.pdf, available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>; unless identified otherwise).

TESS-India, *Key resource: Using pair work*, http://www.open.edu/openlearnworks/pluginfile.php/135223/mod_resource/content/1/KR04_PDF.pdf, available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>; unless identified otherwise).



Theme 4: Group Work

OER4Schools, *Supporting reasoning and managing group work*, http://oer.educ.cam.ac.uk/wiki/OER4Schools/Supporting_reasoning_and_managing_group_work, available under Creative Commons Attribution-ShareAlike 4.0

Teaching Strategy 4 - Strand A

Reporting back from Group Work: Exhibition and Voting

T4-4 A 1 Example



How Ms Mensah Gets Her Students to Report Back From Group Work in English

Ms. Mensah gave her student teachers a collaborative writing task to be done in groups. She wants them to write on the topic '*Girls are more important than boys in society*'. She tells the class that after they have done the group writing task, they will vote for the piece of work they think should be published in the college journal. Let us look at the steps she went through with her student teachers to get them to vote on the piece of work, ensuring they represented the views of the class.

Ms Mensah does the following:

- She explains to the groups they will write a one-page essay, on the above topic, to be done collaboratively in groups.
- First she asks them to brainstorm the key stages of the essay and also the topic area.
- Then she provides them with a Writing Framework (based on their feedback to the brainstorm).
- She asks the group to choose a group secretary who will decide who writes which part of the framework.
- After a given amount of time and after she has monitored their work, she asks them to exhibit their work on the wall.
- She organises the groups (she has 8 groups of 5) so that their work is well spread around the classroom. Then she organises each group to start at a certain essay e.g. Group 1 look at Group 2, Group 2 look at Group 3 etc and move clockwise around the class.
- She encourages student teachers to give constructive feedback as they read the essays.
- When they have all had a chance to read the essays, Ms Mensah asks them to vote for the one they think should be published and say why. She does this by asking them to put the number of the group they like in the 'hat'.
- She asks the class to accept the outcome of the ballot as the representation of the class.

Tutor Discussion



- How would you have encouraged your student teachers to report back on this type of group work (collaborative writing) if you were Ms. Mensah?
- Discuss the advantages of exhibiting student teachers' work before voting.
- Why would you encourage student teachers to give constructive feedback after presenting their group work ?
- How can 'voting' for a piece of work be useful in the classroom?

T4-4 A 2 Plan and Practise Together



Exhibition and Voting

You are now going to plan your own reporting back activity. If the above examples fit what you are teaching, you can use them. However, you may well be teaching something else, so here are some more ideas from various subjects that lend themselves to 'Exhibition' and 'Voting' as a form of reporting back.

Effects of Colonisation - Positive and Negative (Environmental and Social Studies - FDC 128)

Plan a lesson on the above topic. What relevant steps would you take to enable your student teachers to vote for the group whose presentation is thought to be the most informative?

Common Diseases among Pre-schoolers (Early Childhood - ECE 213)

Plan a lesson to involve student teachers to work in groups to report back to the class on their findings.

Children with Learning Disabilities (Educating the Individual with Special Needs - EPS 211)

Plan your lesson to engage student teachers in group work and to report back to the class on their findings.

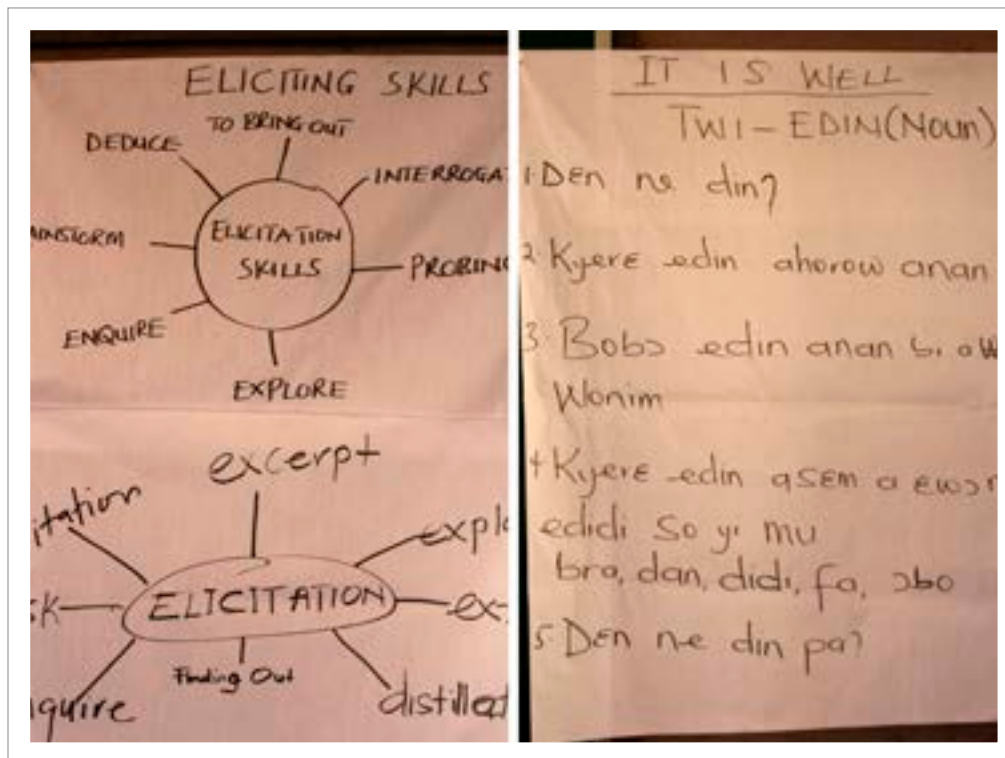


Figure 21. Posters ready for student teachers to vote on them

Plan Your Own Exhibition and Voting Activity



Can you use any of the above ideas? Hopefully the above topics give you an idea of how you can design an activity for use in your classroom. But, as usual, it is possible that those ideas do not fit, and you will need to identify a topic that fits into your weekly lesson forecast.



At the end of the planning activity you should have developed an activity plan that you can use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.

T4-4 A 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-4 A 4 Reflect Together



Exhibition and Voting

Here are some questions to prompt your reflections:

- Did you achieve what you wanted to achieve in the lesson in terms of getting your student teachers to report back? If yes, tell your peers what happened.
- Did they (the student teachers) achieve what you hoped they would achieve in their 'report back'? If yes, tell your peers what happened.

Teaching Strategy 4 - Strand B

Reporting Back From Group Work: Participatory Feedback

T4-4 B 1 Example



How Ms Sabina Got Her Students to Report Back From Group Work in Mathematics

Ms Sabina has been using pair and group work in her mathematics classes a few times. She feels the reporting back technique she uses of asking each group to report on their findings is actually rather boring. She has noticed the other student teachers not listening, she finds those presenting spent too much time preparing for the feedback and the rest of the group seems to disengage at that point. She decides to use the strategy of 'Participatory Feedback', a strategy to encourage everyone in the class to participate actively during feedback.

Here are her reflections on how she planned the lesson and how it went.

I have used group work activities in my teaching and I do think they offer great opportunities for learning. However, the way group feedback took place did not seem to engage all the student teachers. Could 'Participatory Feedback' help? I devised two group activities to compare and contrast, and consolidate the learning of arithmetic progression (AP) and geometric progression (GP), in 'Sequences and Series' (FDC 112M, Unit 9 and FDC 222, Unit 2 and 3). I organised the class into 8 groups, so 4 groups would do the same activity.

I gave the student teachers the following instructions:

- We will use the strategy of 'Participatory Feedback'. This is a technique to make you all actively participate in the feedback and get more opportunities to learn from each other.
- I will only be asking one of the groups to report for each activity (so 2 groups), but I will not tell you in advance which group so you all have to be prepared and ready to feed back.
- When the two groups present their findings, the other groups then have to add their own ideas. However, you are not allowed to repeat what has already been said. This will mean that all the groups have to listen actively and identify what has been said already.



Figure 22. Student teachers discuss with their tutor what they will focus on when feeding back to the whole class

The two groups who will be reporting back have five minutes each to report on their findings of the activity which is:

1. What is this concept (AP or GP)? You could devise a description or definition to answer this question, but you have to put it in your own words, maybe adding an image.
2. Give an example of AP or GP in a real life situation. Be creative!
3. Show how to do the calculations.
4. Some suggestions for 'things to look out for', for example some common mistakes.

Using these instructions, the feedback went much better than previously. There was a sense of constructive competitiveness when the other groups were adding their ideas, and a lot of laughter! They really learned from each other, especially from the suggestions for 'things to look out for' which tackled many misconceptions. I had not expected that. Because the feedback had to be structured under those 4 points, the additional ideas were focused and relevant. I will use this strategy more often as it helps the learning of the whole class, involving all.

Tutor Discussion

Discuss with your colleagues:



- What do you think are the advantages and disadvantages of using the strategy of 'Participatory Feedback'?

- Would you use the same instructions when using 'Participatory Feedback' or would you make some modifications? If yes, what kind of modifications you would like to make?

T4-4 B 2 Plan and Practise Together



Participatory Feedback

'Participatory Feedback' works for all topics and subject areas where groups are feeding back their findings to the whole class. The topic addressed in the above example might not work for you, so here are five more ideas that lend themselves for reporting back from group work using participatory feedback:

Linear and Exponential Sequences (Maths - FDC 222)

Ask groups to come up with 'Three Things We Know, Three Things We Do Not Know' about linear and exponential sequences. To feed back to the whole class use 'Participatory Feedback'.

Reference: 2014 DBE Further Algebra, FDC 222, Unit 2, p. 210.

Graphical Representation for Central Tendencies (Maths - FDC 312)

Ask groups of student teachers to make a poster of characteristics, examples and ideas for graphical representation for central tendencies (mean, mode, median). Tell them to prepare for reporting back using 'Participatory Feedback' as in the example.

Reference: 2014 DBE Statistics and Probability, FDC 312, Unit 2, p. 216.

Geometrical Shapes (Maths - FDC 122)

Ask mixed attainment groups to come up with their top five tips on what to look out for when constructing different geometrical shapes. Use 'Participatory Feedback' to decide as a whole class on the top seven tips.

Reference: 2014 DBE Mathematics (Geometry and Trigonometry), FDC 122, Unit 2, p. 208.

Causes and Prevention of Kitchen Accidents (Pre-Vocational Skills - FVH 122)

Mixed gender groups report back using 'Participatory Feedback' on their group ideas of common causes and prevention of kitchen accidents and the appropriate first aid that is required.

Reference: 2014 DBE Catering 1, FVH 122, Unit 5, p. 279.

Storage Devices/Media in ICT (ICT - GNS 221)

Groups report back using 'Participatory Feedback' on the advantages and disadvantages of storage devices / media in ICT and give examples to illustrate this.

Reference: 2014 DBE Introduction to Information Technology 2, GNS 221, Weeks 1 & 2), p. 307.

Plan Your Own Participatory Feedback Activity

Can you use any of the above ideas? If not, consult your syllabus and choose a topic from a lesson you will teach next week where you can ask the student teachers to use 'Participatory Feedback' when reporting from their work in groups to the whole class. Plan in detail how you will do this. You can use the activity plan in the appendix.

At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Hopefully, you have also considered how to encourage all of your student teachers to participate, especially females. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.

Please make sure that you have noted down everything you need to remember for your lesson in your activity plan.



T4-4 B 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-4 B 4 Reflect Together



Participatory Feedback

Now that you have used the 'Participatory Feedback' strategy for reporting back from group work, reflect on how it went. If at all possible, do the reflection together with a colleague who has also tried this .

In your reflection, consider the following questions:

- What did you like about using the 'Participatory Feedback' strategy to report back from group work? What did you not like?

- Would you make any changes to your approaches next time? What would those be? What would you hope to achieve with those changes?
- Did female and male students participate equally? If not, what can you do to improve the situation next time?
- From these experiences, did you learn anything new about learning? If yes, what were they?

T4-4 B 5 Sources



TESS-India, *Running an effective participatory interactive workshop*, http://www.open.edu/openlearnworks/pluginfile.php/159529/mod_resource/content/3/TEGN_Workshop.pdf, available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>; unless identified otherwise).



Teaching Strategy 4 - Strand C

Reporting Back From Group Work: Peer Teaching (Jigsaw Round Two)

T4-4 C 1 Example



Jigsaw – Round Two

The 'Jigsaw' method is a type of group work that relies on cooperation and the principle of positive interdependence (linking students together so that group members need each other to succeed); it emphasises individual accountability and achievement of group goals.

In 'Round One' of the 'Jigsaw' method, groups have different tasks. For example, to solve a problem or get to grips with a piece of written work or an experiment. Group members work cooperatively on their activity with the aim of understanding it well (becoming experts at it). In 'Round Two' (same task group work) the 'experts' are responsible for peer teaching this information to their 'Jigsaw' group mates. In this example we focus on round two of the technique with round one covered in the 'Types of Group Work' session.

Tutor Salifu uses the 'Jigsaw' technique to teach his student teachers the 'nature of soil' topic. In the previous session the expert groups assemble and get to work on the following range of tasks/activities.

Groups 1 and 6 do activity 1: Samples of garden soil, beakers, crucibles and water are provided for their experiment. Each group member heats a small amount of the soil in the crucible and observe what happens. If they observe smoke coming out of the soil that indicates the presence of living things in the soil. If they see vapour coming out from the soil upon heating that also indicates the presence of water in the soil. Pouring small amount of water into a sample of dry garden soil in a beaker and observing bubbles from the soil indicate the presence of air in the soil.

Groups 2 and 7 do activity 2: Samples of garden soil, graduated cylinders (1000 ml) and water are provided for their experiment. Each member of the group pours an amount of soil into their cylinder up to about 650 ml and then adds water up to about 900 ml. They then stir or shake the mixture well and allow to settle and then do their observations. As they observe they can now see the particles of the soil settling in layers according to the sizes of suspended matter - silt clay sand and gravel - from the top to the bottom of the cylinder.

Groups 3 and 8 do activity 3: The student teachers read a handout given to them by the tutor to help them explain the functions and uses of soil such as; for crop growth, construction of farm buildings, clay for ceramics, tiles, pots etc. and the importance of soil as abode for living organisms. They discuss

it in detail and ensure that each person really understands what they are studying and make notes of it to be shared with members of other groups in the second round.

Groups 4 and 9 do activity 4: The student teachers in these groups are reading a handout that tutor Salifu has given them about the structure and texture of soil and its role in crop production. They are going to come up with a list of bullet points that they will share in the second round of the 'Jigsaw'. They will make sure to include details about soil air, soil temperature and soil organic matter.

Groups 5 and 10 do activity 5: These groups are looking at images of soil profiles. Their task is to identify the different horizons in the soil profiles and to compare and contrast these. They should sketch the images and write a few bullet points on the differences in the colour, texture, porosity, depth, and organic matter content between the two profiles.

Round Two of Tutor Salifu's Jigsaw Activity on the Nature of Soil



Figure 23. Bringing together all of the information on soil

Members of the expert groups come together in 'Jigsaw' groups and share their knowledge with the other members of the group. Each member of the 'Jigsaw' group reports back from the round one activity by peer teaching the group what they learned.

Here is the list of guidance that Tutor Salifu gives his expert groups of student teachers about reporting back:

- Work together with the other members of your expert group to complete the activity.
- Work out together the most efficient way of peer teaching the activity and make notes on what you will say and do.
- Organise your thoughts into a logical sequence.

- Put your points across using accurate scientific language.
- Briefly mention how you solved any problems you had.
- Try to link your input to what previous members of the 'Jigsaw' group say in their feedback.
- Accept questions when giving your feedback. Anticipate what these might be.

The student teachers really enjoy the activity. They engage critically with the material and the relationships between the students seem much improved. After the peer teaching session student teachers have a comprehensive overview of soil in line with the curriculum requirements. They are able to make the links between soil structure and function. Doing two experiments that highlighted the composition of soil really helped with this and with their understanding about soil profiles.

Tutor Discussion



Share your thoughts on the nature and range of activities presented during this 'Jigsaw' activity. Are they suitable for peer teaching? Why?

Consider each activity in turn and add a few more bullet points to Salifu's list of guidance that will specifically improve the feedback from that expert.

	Guidance for experts (to improve feedback to 'Jigsaw' group).
Activity 1 composition of soil	
Activity 2 separation of soil	
Activity 3 functions and uses of soil	
Activity 4 physical properties of soil	
Activity 5 soil profile	

What are the advantages and disadvantages of peer teaching? What do you think of it as a method of reporting back from group work?

What evaluation questions can you ask the groups after the 'Jigsaw' activity to ascertain its usefulness in teaching and learning?



Figure 24. Reporting back to the 'Jigsaw' group

T4-4 C 2 Plan and Practise Together



Reporting Back on Group Work Across the Curriculum

Plan 'Round Two' of your 'Jigsaw' activity from the previous session. Think about how the experts will report back to their 'Jigsaw' groups. What guidance will you give them? Will you assess your students based on their contribution to the group activities and the 'Jigsaw' group. Will you ask them to evaluate the activity or self/peer assess?

Plan to write a short paragraph, to share with colleagues in the next session, evaluating the 'Jigsaw' technique. Would you recommend it?

Jigsaw on Erosion (Integrated Science - FDC 214)

DBE syllabus reference: "Soil and water conservation" (FDC214, *Integrated Science*, Agriculture, Unit 1).

Jigsaw on developmental games (PE - PRA 122)

Devise activities for the following games:

1. Balancing
2. Kicking
3. Dodging
4. Volleying
5. Dribbling

Reference: "Developmental Games (skill themes)" (PRA122, *Foundations of Physical Education*, Unit 7)

Jigsaw on the Impact of HIV/AIDS (HIV/AIDS Education - GNS 121)

Reference: "HIV and AIDS: Impact on the Individual, Family, Community and Nation" (GNS 121, *HIV and AIDS Education*, topic 9)

Jigsaw on Multimedia Elements (ICT - GNS221)

For example: text, graphics, animation, audio and video.

Reference: "Multimedia, multimedia and the web" (GNS221, *ICT2*, Week 11)

Planning Your Own Reporting Back on Group Work Activity



Make sure your activity plan includes the following:

- a note of any information/instructions you will give to 'the experts' (to help them report back to their 'Jigsaw' groups effectively);
- other planning details (resources needed etc.) that will help you to do round two of the 'Jigsaw' activity successfully with your student teachers;
- details of how you will manage the 'Jigsaw' group work - who will report back first, how long will they have etc.;
- feedback that you will take from 'Jigsaw' groups after they have finished reporting back; and
- a note reminding you to write a short paragraph, to share with colleagues in the next session, evaluating the 'Jigsaw' technique.

You can find the activity plan template in the appendix.

At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Hopefully, you have also considered how to encourage all of your student teachers to participate, especially females. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.



T4-4 C 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you

have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-4 C 4 Reflect Together



Reporting Back on Group Work Across the Curriculum

Now that you have done round two of the 'Jigsaw' activity with your student teachers, reflect on how it went. Do the reflection together with colleagues who also tried the activity.

In your reflection, consider the following questions:

- Were your student teachers confident when reporting back to their groups?
- How did you manage the reporting back task? What was your role during the task?
- Did having a sense of shared responsibility (all working on the same goal) yet individual accountability (each one reporting back a different piece of the 'Jigsaw') make any difference to how 'Jigsaw' group members worked together?
- What difficulties did you have with this technique?
- Did female and male students participate equally? If not, what can you do to improve the situation next time?
- Do your student teachers have the right skills to learn in this way? If not, how can you help them gain these skills?
- What will you do differently if you use the 'Jigsaw' technique again?

Refer to the short paragraph that you wrote and share any other thoughts not covered by these questions.

Remember to write down your thoughts in your learning journal. Also note down what you learned from this session that was most effective in improving your teaching.

T4-4 C 5 Sources



Image: *Working Together Teamwork Puzzle Concept*, by Scott Maxwell Follow <https://www.flickr.com/photos/lumaxart/2137737248>, CC BY-SA, <https://creativecommons.org/licenses/by-sa/2.0/>

Introduction to Teaching Strategy 5

Group Work in the Multilingual Classroom

T4-5 i 1 Learning Objectives



By the end of the session, tutors will be able to:

- Use teaching strategies that can be used in any subject to draw on student teachers' multilingualism as a resource for learning.
- Show how these teaching approaches help student teachers to learn more effectively.
- Engage student teachers in their own learning.

T4-5 i 2 Introduction



In much of the world, including Ghana, students sometimes speak more than one language. There is much research and evidence about the cognitive and practical benefits of knowing more than one language. Whilst such knowledge is a tremendous resource for teaching and learning it should be noted that:

- Students often learn best in the language they know best.
- Teachers teach most effectively in a language they are familiar with.

In rural areas, pupils and their families may only speak the local dialect. One Ghanaian educator explained this as follows:

"I have worked in many rural communities where both men and women with limited literacy and exposure can only speak and understand just their local dialect which they may also not also be able to read. Communities in the Northern, Upper East and West, Volta and also Western and Brong Ahafo Regions. Sometimes it is assumed that the majority of speakers speak more than one dialect, albeit limited, but that is not so."

This teaching strategy is about the reality in many classrooms of instructing student teachers in a language that is not the same as their mother tongue. Such situations are often viewed as challenging. This teaching strategy explores how you can use group work to make multilingualism in your classroom a positive contributor to learning.

A particularly effective learning strategy is 'Codeswitching', a term for an age-old practice – that of switching between the languages one knows in order to maximise communicative potential. 'Codeswitching' is something most people do all the time with their friends, family and other members of the community without even thinking about it. In the classroom, it can be

about combining elements from different languages in the same sentence or alternating between languages in different parts of an activity.

'Codeswitching' helps learning because it:

- validates multilingualism, viewing it as a valuable asset rather than a problem;
- represents a more efficient and effective teaching and learning technique than is possible in one language only;
- offers opportunities for individuals to develop rich and varied communication skills for use within and outside college.

The table below offers some strategies and activities that can help you in developing group activities for multilingual learning in your classroom. They can be used and adapted for many topics, and all subjects.

Theme 4: Group Work Teaching Strategy 5: Using Groupwork in the Multilingual Classroom		
Aspect	How it works	Strand
Codeswitching	This is about switching between the languages one knows for different parts of a task.	T4-5C
Greetings	This is about valuing and building on the multilingual skills of your student teachers by asking them to teach and practise greetings in the home languages to the whole class.	T4-5i
Labels	Make the different languages spoken in the classroom visible by labeling features and objects in the classroom in the different languages.	T4-5i
Multilingual Word Wall	Create an evolving word wall in your classroom, by posting up useful words and expressions in your student teachers' home languages.	T4-5B
Language Grouping	Create groups where student teachers who speak the same language are together when working on language-rich tasks e.g. storytelling.	T4-5A

Greetings

Ask your multilingual student teachers to teach a greeting in their home language to the whole class. Develop a routine whereby, at the start of the lesson, you greet all or some of your student teachers in the school language, and then in each of their home languages, with the whole class responding to the series of greetings accordingly. Do the same to say goodbye at the end of the lesson.

Labels

Ask your student teachers to label the features of your classroom (such as the window, door, board, cupboard) in both English and their home language. Use different-coloured pens or card to help distinguish the different languages.

Multilingual Word Wall

Create an evolving word wall in your classroom, by posting up useful words and expressions in your student teachers' home languages (for example, 'hello', 'sorry', 'thankyou', 'noun', 'energy', 'multiple', 'factor'). Seek out opportunities to invite your student teachers to contribute new words, for example ask each group to add three words they learned or used a lot today in different languages. Use different-coloured pens or card to distinguish the languages.

Codeswitching

This is about switching between the languages one knows in order to maximise communicative potential. Some activities that work particularly well in groups are to ask your student teachers to:

- listen to information in one language and explain the gist of it orally or make written notes about it in another
- read a text in one language and talk about it or summarise it in writing in another
- use the home language in one part of an activity and English in another part.

T4-5 i 3 Activity: Codeswitching with Colleagues



Part 1: Group Language Survey

Undertake a language survey of the group you are doing your PD session with now. Gather information about the languages you and your colleagues know, how well you know it (writing, talking, reading; basic knowledge, fluent, etc). It's also nice to know is how people gained that knowledge, for example from parents or grandparents, from living somewhere, or from studying it in school. Display the information on a large sheet and stick it to the wall.

Part 2: Codeswitching

In your groups, pick out an activity you did in the theme Talk for learning. Re-do the activity, but use some of the ideas from the 'Codeswitching' section above.

Discuss with your colleagues afterwards:

- Did you enjoy using 'Codeswitching' in the activity? Why? Why not?

- In what way did using 'Codeswitching' help you in your learning (or not)?

Part 3: Getting More Ideas

Discuss with your colleagues in groups, then share your ideas with the whole group:

- How can you acknowledge and value the different languages that your student teachers bring to the classroom?

Make notes of your ideas in your learning journal.

T4-5 i 4 Plan and Practise Together



The next three sections have examples of different activities for group work in the multilingual classroom that can be used in all subjects. In your own planning, please use the introduction above if you need further information on the various aspects. Also note that the example provided in each section is just for guidance. Do not spend too long on it, but move straight on to your planning activity.



In your planning, pay attention aware of the gender dynamics in your classroom, and creating an equitable learning environment for all students. Refer back to the gender section in the introduction to T4 and T4-1 if necessary

T4-5 i 5 Prepare for Teach and Reflect



Once you have planned your activity, come back together as a whole group, to see what issues arose. Make a note in your learning journal. After you have taught, write down your own observations and reflections on your activity plan and in your learning journal, and be prepared to share these with others at the start of the next session.

T4-5 i 6 Activity: Reflection on the Theme of Group Work



Now that you have experienced using group work in a number of contexts, complete the table below and then share and compare with a colleague and then with a larger group. See if you can help each other if there are any further concerns about using group work in (or outside) the classroom.

Using group work	Agree	Disagree
I think group work makes the classroom too noisy or disruptive.		
I am no longer in control of my class if I do group work.		
I think group work is enjoyable for both tutor and student teachers.		
I think group work is the best solution for mixed ability classes.		
I find it difficult to evaluate participants working in groups because too many things are going on at the same time.		
I think my students' errors will be reinforced in group work.		
I don't think group work can be used with large classes because the furniture cannot be moved.		
I know some of my students prefer to work alone so they will be unhappy in groups.		
I think group work can really be useful for the teacher in bilingual and multilingual classrooms.		
I think my students will use their first language all the time if I use group work.		
I find that my male student teachers dominate my group work activities in college and the females do not participate.		

T4-5 i 7 Further Reading



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García, O., Skutnabb-Kangas, T. and Torres-Guzmán, M.E. (eds.) (2006). *Imagining Multilingual Schools: Languages in Education and Glocalization*. Clevedon: Multilingual Matters.

Neaum, S. (2012). *Language and Literacy for the Early Years*. London: Sage.

Simpson, J. (2014). *Empowering teachers by helping legitimise translanguaging practices in Rwandan classrooms*, British Association of International and

Comparative Education 2014 Conference, 8–10 September, University of Bath.

T4-5 i 8 Sources



TESS-India, *Multilingualism in the classroom*, http://www.open.edu/openlearnworks/pluginfile.php/145491/mod_resource/content/1/LL12_PDF.pdf, available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>); unless identified otherwise).

Teaching Strategy 5 - Strand A

Group Work in the Multilingual Classroom: Language Grouping

T4-5 A 1 Example



Grouping Pupils Based on the Language They Speak

Mr. Danda in his English methodology class, with the second year student teachers, introduces his lesson by telling a story in his native language Bissa. The title of the story is 'Why ducks sit in water'. He finishes telling the story and asks the student teachers how they enjoyed the story. More than half of the class complained about not understanding the language in which he told the story.

Mr. Danda uses the student teachers' experiences to draw their attention to how some pupils in the basic schools get left out in the English lessons. He tells them that by grouping pupils based on the language they speak, these pupils can take a greater part in lessons. He then tells them how they can use storytelling effectively for teaching and learning to take place. Let us now see how he does that with his student teachers.

Mr. Danda takes his student teachers through various considerations.

In methodology lessons, I recommended the following approaches to my student teachers:

- Select a story that is appropriate for the class (considering culture, age, gender, gestures, vocabulary, length of the story etc.).
- Put pupils in groups based on the language they speak to encourage peer teaching or interpretation to others.
- Use pictures and realia for pupils to predict the story.
- Pre-teach key words of the story by using realia, examples, gestures, demonstration, synonyms and antonyms and translation (if possible)
- Tell the story using picture, realia, gestures, demonstration, and role play using some of the pupils.
- Pause in between the story to ask questions on that part of the story that has been told. To check pupils listening and understanding of the story, ask pupils to flash the appropriate picture to answer the question asked. Also, questions can be asked for pupils to predict what will happen next in the story. Do this till the story comes to an end.

- Allow pupils to talk about how they feel about the story .
- Encourage them to re-tell or tell another story through role-play and dramatisation.

Tutor Discussion



Task 1. List the strategies that Mr Danda recommends his student teachers use with their pupils. Then imagine your student teachers have acted on Mr Danda's advice and complete the rest of the table. The first two rows have been completed for you.

Strategy	What student teachers think or do.	Why they do it and how it supports learning.
Selecting a Story	Student teachers think about the following criteria: culture, age, gender, gestures, vocabulary and length of the story.	They use several criterion to select the story to make sure it is relevant and appropriate for his class and context.
Organising Language Groups	Student teachers plan and organise the class so their pupils sit with others using the same L1.	Student teachers think that by using 'Language Groups' pupils could help each other (peer teaching) understand new ideas and language through using the same L1.

Task 2. Discuss what strategies you would use in a similar situation and make a note of interesting ideas in your learning journal.

T4-5 A 2 Plan and Practise Together



Language Grouping

We are now going to plan our own group work activity. If the above examples fit what you are teaching, you can use them. However, you may well be teaching something else, so here are some more ideas from various subjects that lend themselves to using storytelling and other strategies to support learning in a bilingual or multilingual contexts.

Oral Literature (Ghanaian Language and Culture - FDC 213/ECE 216)

Think about how you would plan to help your student teachers in the class who can not speak and write the language you are teaching. Use some of the strategies you discovered in the example above.

Traditional Approaches in Teaching Reading (Literacy Development in Early Childhood - ECE 122)

Plan a lesson for your methodology class to look at the strategies to use with your student teachers to meet the needs of the basic school pupils in a multilingual or bilingual class. Consider some of the strategies in the example and how they could be used to make teaching reading in English accessible to all pupils.

Lesson Delivery - Peer Teaching (Religious and Moral Education - FDC 129B)

In planning your lesson in methodology, design activities that encourage your student teachers to plan lessons together using the various strategies that have been discussed in teaching a multilingual or bilingual class.

Plan Your Own Language Grouping Activity



Can you use any of the above ideas? Hopefully the above topics give you an idea of how you can use design an activity and use in your multilingual or bilingual class. But, as usual, it is possible that those ideas do not fit, and you will need to identify a topic that fits into your weekly lesson forecast.



At the end of the planning activity you should have developed an activity plan that you can use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.

T4-5 A 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-5 A 4 Reflect Together



Language Grouping

Reflect on your experience using language grouping. What went well, what did not go well? Were there certain things that were helpful (such as pictures)? What can you note in your learning journal?

T4-5 A 5 Further Resources



Completed Version of the Table

Here is the completed version of the table from the tutor discussion.

Strategy	What your student teachers think or do.	Why they do it and how it supports learning.
Selecting a Story	Student teachers think about the following criteria: culture, age, gender, gestures, vocabulary and length of the story.	They use several criterion to select the story to make sure it is relevant and appropriate for his class and context.
Organising Language Groups	Student teachers plan and organise the class so their pupils sit with others using the same L1.	Student teachers think that by using 'language groups' pupils could help each other (peer teaching) understand new ideas and language through using the same L1.

Strategy	What your student teachers think or do.	Why they do it and how it supports learning.
Using Visuals and Realia	Student teachers prepare a variety of visuals and realia to help introduce the story and then uses them again during the story.	Student teachers know that by using visuals and realia they could engage their students in the story even more. For the whole class they can predict what the story might be about. They know this would especially help second language learners as the visuals and realia will help them relate it to their L1 and also help them to memorise and remember the new language at this stage of their learning.
Pre-Teaching Vocabulary	Student teachers prepare and plan beforehand by reading the story and identifying those words which were essential to the understanding of the story but new to their pupils. The words are also difficult to guess from the context.	Student teachers know that unless they pre-teach these new words, their pupils will find it difficult to understand and enjoy the story. So they use a variety of techniques (visuals, synonyms, translation, examples etc) to help their pupils understand the new words.
Telling the Story	Student teachers tell the story without using a book/ paper. They uses gestures and varies their voice.	Student teachers know it is important to learn the story first so that they can really put the meaning across to their pupils. They do this by memorising the story and using a variety of techniques for their pupils to be able to enjoy and remember.

Strategy	What your student teachers think or do.	Why they do it and how it supports learning.
Pausing	As one of their techniques in storytelling, student teachers uses pauses.	The pauses add to the excitement of the story and is good for asking pupils to predict what might happen next.
Giving Time for 'Personalisation'	Student teachers know it is very important to find out what their pupils feel and think about the story.	This allows pupils to express themselves freely using their own language and ideas. They ask their pupils if there are similar stories in their own languages.
Giving Time for Re-telling/Telling Another Story	Student teachers ask their pupils in groups or in pairs to retell the story in their own words.	Pupils have the chance to tell the story in their own words and perhaps in their own language.

Teaching Strategy 5 - Strand B

Group Work in the Multilingual Classroom: Multilingual Word Wall

T4-5 B 1 Example



How Mrs Anyanful Used the Multilingual Skills of Her Student Teachers to Support Their Learning of Mathematics

Mrs Anyanful teaches mathematics in a College of Education in the Eastern Region. The student teachers in the college come from a wide variety of backgrounds and many different languages can be heard on the campus: Akan, Ewe, Dangme, Dagbani, Hausa, Moshe, Fante. Mrs Anyanful has been working already on supporting her student teachers in overcoming language issues in the learning of mathematics. Her student teachers continuously add to their own personal dictionaries, and there is also a word wall in English for each mathematical area (e.g. geometry, algebra, number, shape and space, statistics) pinned on the classroom walls where students add mathematical terms and descriptions to see (T3-5B). She had never considered enhancing learning by sharing languages and 'Codeswitching' where you switch between the languages you know in order to maximise communicative potential, and thought this might be a good idea. This is Mrs Anyanful's story.

In my classes it has now become part of our routine to add new terminology to the personal dictionaries and to update the word walls regularly. It made us aware that English mathematical terminology cannot always be translated into Ghanaian languages. For example, 'trigonometry' and 'algebra' do not seem to exist as a word in Dagbani, Twi, Fante, Ewe; 'square' does not exist in Twi; the word used in Twi for 'cuboid' is 'adaka', but this actually means 'box' and of course one can have differently shaped boxes.

'Codeswitching' is something the multilingual student teachers do all the time in everyday life. I decided to turn the existing word walls in the classroom into multilingual word walls. If no translation is possible, then we would use a description and/or image.

To add translations to terminology already on the word walls, we started with the terminology from geometry (FDC 122). Because there was no time for this during lessons, it was given as a home task: select a few words and translate into any language you know. Giving it as a home task turned out to be a success - I heard my student teachers discuss it with their friends from other classes and it seems family and friends got engaged in the translating, and getting to discuss the mathematical properties of the concepts. So everybody was talking mathematics outside the maths classroom.

After three weeks, we evaluated as a class whether the multilingual word wall was supporting their maths learning. The student teachers were positive as it really helped them: the 'Codeswitching' made them gain a better understanding of the maths terminology. To realise not all words can be translated made them focus on using the English words. They reported becoming more precise and accurate with the choice of the maths terminology. They were also pleased they did not have to 'Codeswitch' secretly anymore but could do so openly.

Tutor Discussion



Discuss with your colleagues:

- Have a go at coming up with translations into different Ghanaian languages of three English words you use in geometry. What are the challenges this brings?
- Discuss the advantages and disadvantages of 'Codeswitching' in terms of supporting the learning of your student teachers.
- How do you think your student teachers would respond when you asked them after using a multilingual word wall for three weeks how it helped them in their learning?

T4-5 B 2 Plan and Practise Together



Multilingual Word Wall

The above example might not work for you, so here are four more ideas that lend themselves to using a multilingual word wall to support your student teachers in their learning.

Sequences and Series (Maths - FDC 222)

Make a multilingual word wall for terminology used in Sequences and Series, using for example for the words and expressions 'series', 'general term', 'exponential'.

Reference: 2014 DBE Further Algebra, FDC 222, Units 2 & 3, p. 210.

Word Problems in Probability (Maths - FDC 312)

Make a multilingual word wall for terminology used in Word Problems in Probability, using for example the words and expressions 'frequency', 'central tendency', 'probability', 'combined events'.

Reference: 2014 DBE Statistics and Probability, FDC 312, Unit 4, p. 216.

Rights and Responsibilities of Citizens (Social Studies - FDC 128)

Make a multilingual word wall for terminology used in Rights and Responsibilities of Citizens, using for example the words and expressions 'constitution', 'citizenship', 'limitations', 'human rights'.

Reference: 2014 DBE Governance, Politics and Stability in Ghana, FDC 128, Unit 5, p. 291.

Components of the Computer System (ICT - GNS 211)

Make a multilingual word wall for terminology used in Components of the Computer System, using for example the words and expressions 'storage', 'device', 'optical', 'disk'.

Reference: 2014 DBE Introduction to Information Technology 1 (ICT 1), GNS 211, Week 1 & 2, p. 300.

Plan Your Own Multilingual Word Wall Activity



Can you use any of the above ideas? If not, consult your syllabus and choose a topic from a lesson you will teach next week where making a multilingual word wall would be useful for the learning of the student teachers. Plan in detail how you would organise this. You can use the activity plan in the appendix.



At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.

Please make sure that you have noted down everything you need to remember for your lesson in your activity plan.

T4-5 B 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember

to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-5 B 4 Reflect Together



Multilingual Word Wall

Now that you have used using a multilingual word wall for supporting learning in the multilingual classroom, reflect on how it went. If at all possible, do the reflection together with a colleague who has also tried this .

In your reflection, consider the following questions:

- How did using multilingual word walls go in your class?
- Was there a shift in the participation of your student teachers? Where more engaged? Who worked with whom?
- Did seeing words in different languages help in student teachers' communication? In cultural understanding?
- Are there any changes in the social cohesion in your class? If yes, what are they?
- What was the effect on the learning of your student teachers?

Make a note of your thoughts in your learning journal.

T4-5 B 5 Sources



TESS-India, *Multilingualism in the classroom*, http://www.open.edu/openlearnworks/pluginfile.php/145491/mod_resource/content/1/LL12_PDF.pdf, available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>; unless identified otherwise).



Figure 25. Student teachers discuss the translations of terminology into Ghanaian languages

Teaching Strategy 5 - Strand C

Group Work in the Multilingual Classroom: Codeswitching

T4-5 C 1 Example



Codeswitching in the Science Classroom

Tutor Annafo is multilingual - he can speak five different languages. Many of his student teachers are bilingual but because they come from different parts of the country, there can be a number of different languages represented in his classroom at any one time along with English, the official language of instruction. Annafo's language skills mean that he can communicate really well with his student teachers, sometimes in their mother tongue. Many times when he is introducing a new topic in science with specific technical terms, he first introduces the term in English and then follows up with an explanation in another language, depending on which of his students are looking puzzled at the time.

This technique of using two different languages in one interaction is known as 'Codeswitching'. It has become a popular choice over the years in Ghana and you will hear people using it on the radio and television, and in churches and classrooms. Annafo likes the technique for the following reasons:

- It is useful for elaborating on concepts to facilitate understanding.
- It increases classroom participation.
- It ensures the smooth running of the lesson.
- It allow him to establish good classroom relationships.
- He is able to connect with the local culture of his student teachers.

Now that Annafo has been using talk for learning techniques and encouraging his student teachers to work in groups, he wants to make sure that his classroom is a friendly place for those who speak other languages in addition to English. He decides to talk openly with his student teachers about 'Codeswitching' and to elicit their ideas on how to proceed. He plans an activity that will allow for these issues to be discussed.

Tutor Annafo's Activity on Codeswitching

Tutor Annafo describes how he does the activity as follows:

The student teachers spend the first few minutes of the activity brainstorming the different languages that are written in Ghana. I write them on the board as they call them out. The list is quite long and includes these languages:

- Twi
- Gurine
- Dagbani
- Ga
- Ewe
- Fante
- Dangme
- Dagaare
- Nzema

The student teachers pair up with someone they do not usually work with and share information about the languages they speak. I take feedback from a few groups and together we become more aware of the rich and diverse language culture represented in our classroom.

I write this definition of 'Codeswitching' on the board so that we are clear that we are all thinking about the same thing, and not confusing it with translanguaging which is another language technique used by multilinguals that is more context based.

'Codeswitching is the technique of using two different languages in one interaction'.

In their pairs, they think about the ways of using 'Codeswitching' in the classroom. Here are some of the things they said.

You can use 'Codeswitching':

- to explain concepts,
- to correct student teachers' mistakes,
- to acknowledge and call on student teachers,
- to help student teachers understand something and
- when new scientific vocabulary is introduced.

I encourage the student teachers in their pairs to draw on their own experience and think of useful examples of 'Codeswitching'. Here is one student teacher's response:

Sometimes I forget the meaning of simple but unfamiliar words like 'computer'. When Tutor Annafo sees me looking puzzled and uses my local language to say 'thinking machine', the rest of what he is saying makes a lot more sense. I once forgot the meaning of the word 'refrigerator' during group work in biology and when a friend said 'snow box' in my local language, I was better able to take part in the group discussion. Also, I would not have understood the concept of DNA without 'Codeswitching' as it was a meaningless term to me until I heard it described in my own language as being 'the smallest part of a person'.

The pairs join other pairs, and in groups of four they come up with some ways of encouraging a positive climate for 'Codeswitching' in the classroom. Here are some of their ideas:

- Have a rule that student teachers should always ask for an explanation if they do not understand what a particular English word means.
- The tutor needs to introduce key words before starting a topic and allow a few minutes of 'Codeswitching'/local language use to ensure that everyone understands the words.
- Provide opportunities for student teachers to practise using the new words we have learned.
- Plan for and allow procedures to be clarified (by other student teachers) by 'Codeswitching' as it lightens the cognitive load and makes it easier to understand them.

Annafo likes the ideas that his student teachers come up with and he will start using them right away.

Tutor Discussion



Use 'Codeswitching' during this discussion activity if you think it will enhance your engagement and contribution.

- Do you use 'Codeswitching' in the classroom? When do you use it? Formally/informally, text dependent/text independent?
- Do your student teachers use 'Codeswitching' in the classroom?
- Does your current classroom environment provide a safe and secure place for 'Codeswitching' to happen? How do you know?

What do you think of the title of this book on 'Codeswitching' for Chinese teachers?

"How to live a guilt-less life using Cantonese in the English Class" (Swain, Kirpatrick and Cummins, 2011)?

- What do you think causes the feeling of guilt referred to in the title? Why?
- Think of ways in which tutors (when using 'Codeswitching') can make sure that student teachers continue to become proficient in English?



Figure 26. Some of the languages written in Ghana

T4-5 C 2 Plan and Practise Together



Codeswitching

Plan to raise awareness of ‘Codeswitching’ with your student teachers in the subject that you teach. For example, you can do a Talk for Learning activity, and encourage them to use ‘Codeswitching’ to clarify their thinking. Ask them to keep a record of when they ‘Codeswitch’ and how it is helpful. The activity ‘Talking Points’ can work for this.

Also consider the following when planning the ‘Codeswitching’ activity that you will do with your student teachers next week:

- Choose an activity that will help with your student teachers’ language needs in your subject.
- Plan to consciously use ‘Codeswitching’ when describing the activity.
- Think about the specific language that you will use and how to facilitate student teachers’ understanding by using their local language.
- You could also try using ‘Codeswitching’ to keep students on task during the activity as research has shown that it is a useful way of maintaining discipline.

Write your ‘Codeswitching’ strategy (linked to a topic from a lesson you will teach next week) in an activity plan; you can find the activity plan template in the appendix. Also write in your plan other details (resources needed etc.) that will help you to use ‘Codeswitching’ to improve your student teachers’ learning.

Alternatively you can do Annafo's activity with your student teachers as a first step towards raising awareness of 'Codeswitching' as a teaching tool.



At the end of the planning activity you should have developed an activity plan that you can teach in the coming week. Hopefully, you have also considered how to encourage all of your student teachers, especially females, to participate. Make sure you take a little time now to practise the activity that you have planned with your colleagues. You and a colleague might want to arrange to observe each other when you each do the activity with your student teachers during the week.

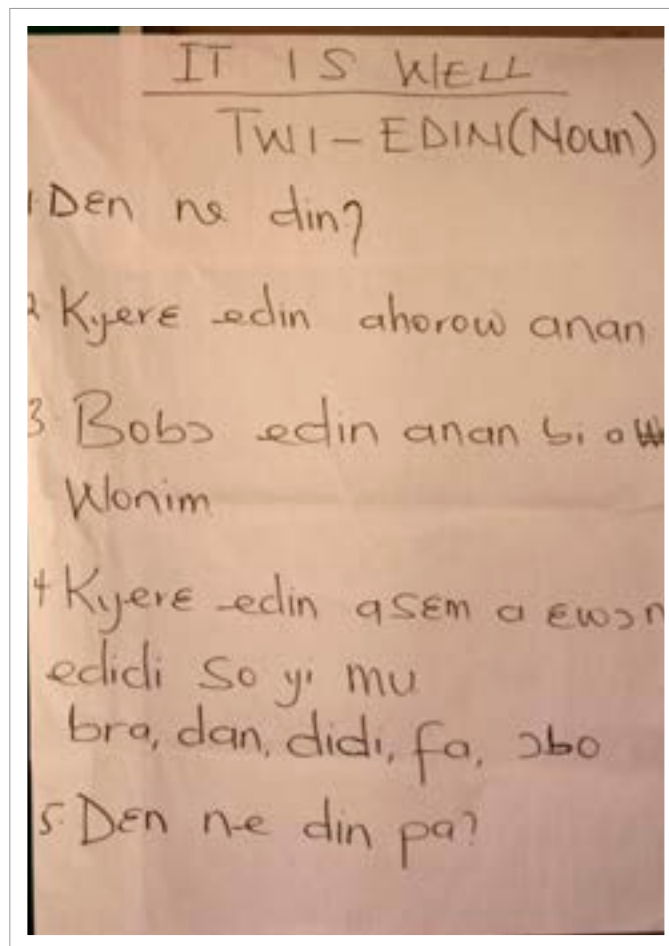


Figure 27. Classroom rules displayed in a local language

T4-5 C 3 Teach and Observe



It is important for your professional learning that you actually teach the activity that you have planned. Please make sure that you have your activity plan available when you teach. Any issues that arose during the lesson should be written down immediately after you have taught, and remember to fill in your observations section of the activity plan immediately after you have taught. If possible arrange with a colleague to observe each other when you each do the activity with your student teachers during the week.

T4-5 C 4 Reflect Together



Codeswitching

Now that you have done an activity to raise awareness of 'Codeswitching' with your student teachers, reflect on how it went. Do the reflection together with colleagues who also tried the activity.

In your reflection, consider the following questions:

- What activity did you choose to use your 'Codeswitching' strategy with? How effective was 'Codeswitching' in getting your student teachers to engage with the lesson material?
- Did the activity move your student teachers' subject learning on? How do you know? What impact did 'Codeswitching' have on that?
- Did your student teachers keep a note of their own use of 'Codeswitching' during the activity? How will you follow this up?
- What did you learn from doing the activity in a way that uses 'Codeswitching' as a teaching tool?

Remember to write down your thoughts in your learning journal. Also note down what you learned from this session that was most effective in improving your teaching.

T4-5 C 5 References



Paper on codeswitching in Ghana <http://www.ajol.info/index.php/gjl/article/viewFile/103237/93450>

T4-5 C 6 Sources



Image: "Some of the languages written in Ghana" - Wordle created using <http://www.wordle.net/>

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Activity Plan

Aspect	Details
Theme	
Teaching strategy	
Student level (year and/or course)	
Syllabus reference	
Specific Objective(s) of the activity	
Activity focus	
Activity description	
Textbook title and pages (if available)	
Materials / resources	
Observations (after lesson)	
Date (written):	Date (taught):

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