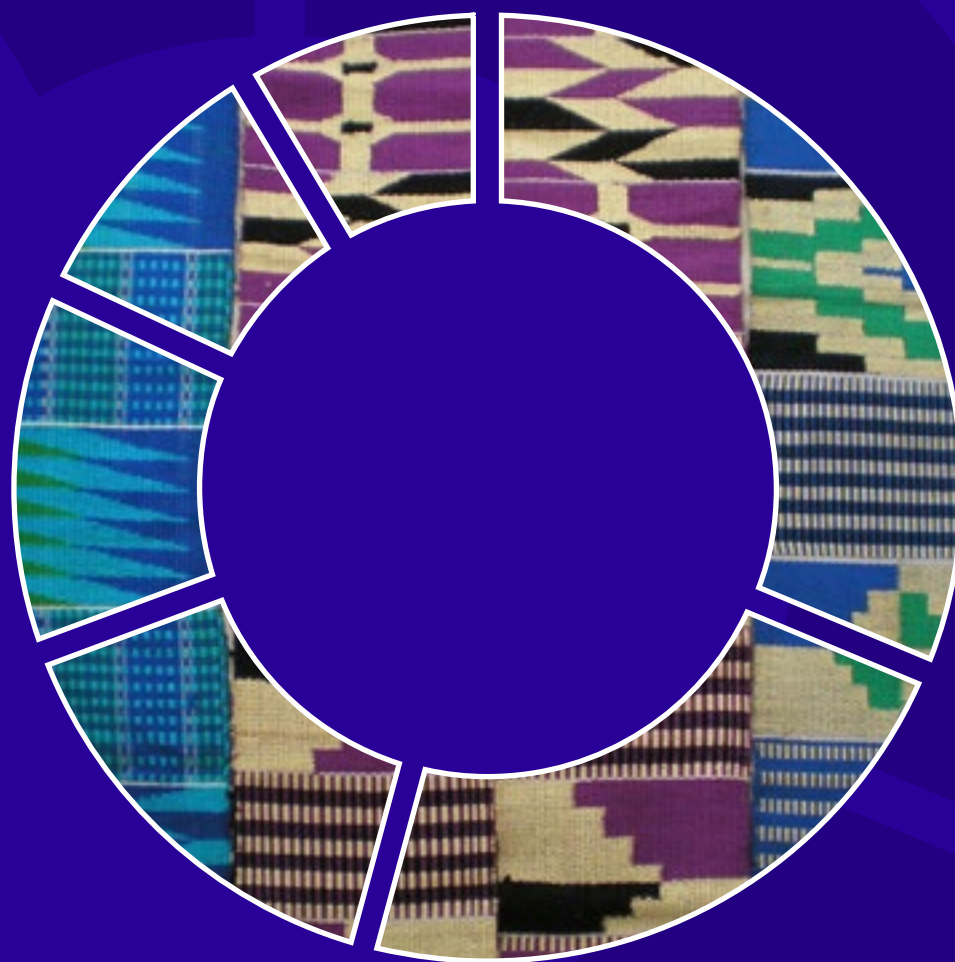


Group Work

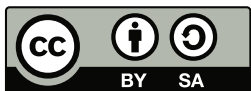
HANDBOOK FOR **FACILITATORS**





T-TEL Professional Development Programme

Theme 4: Group Work Handbook for Facilitators



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All sources are detailed in the acknowledgements sections.

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About These Resources

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

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 (student) teacher, to enhance college-based and school-based teacher education. We also hope that, as practising teachers, no matter how long ago you did your initial teacher education, you will also find this material useful.

The present set of resources is 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 Practise - 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 pupils) 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 pupils) 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, with further examples provided in the Plan and Practise Together section.

Student teacher resources would normally be used within your usual College of Education teacher education programme, particularly within the elements relating to teaching practice. However, the resources are self-contained, and can be used for self-study by (groups of) in-service teachers, see below. Note that we will use the words “teacher” and “student teacher” interchangeably throughout, to designate both student teachers (who are still in college), and practising teachers.

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.

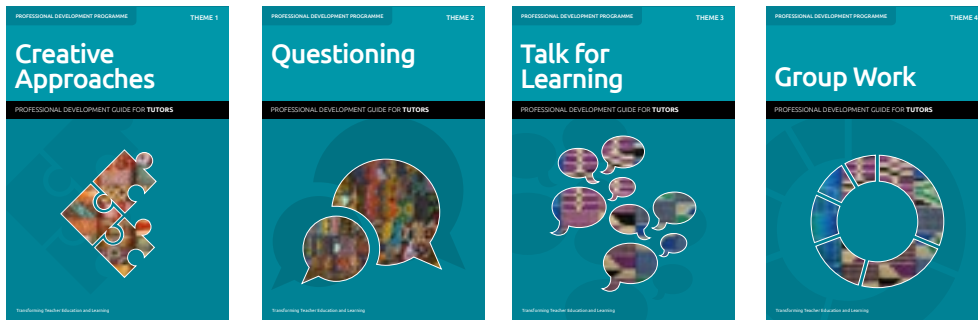
The Learning Journal. The learning journal is an important tool, and we encourage all participants to keep one. It allows you to make notes, so that you can look back at earlier sessions, to see how your thinking and practice have developed.

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

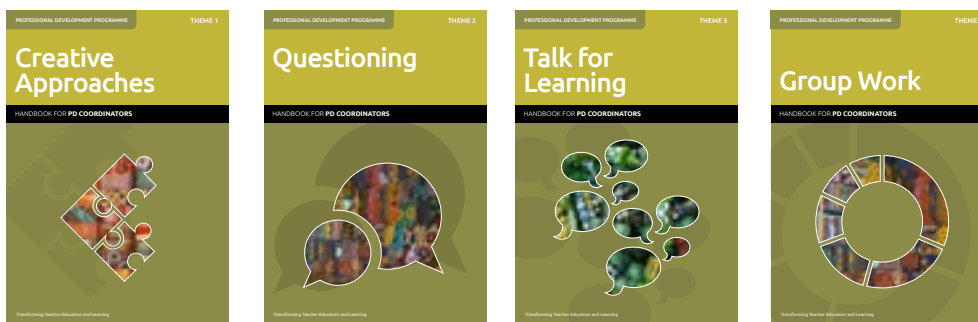
The PD Guide for Tutors

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



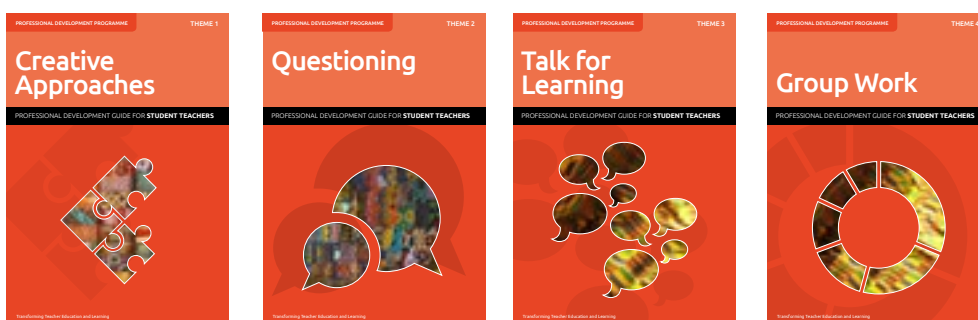
The Handbook for PDCs

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		English	Mathematics	Science
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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Education Endowment Foundation, *Meta-cognitive and self-regulation strategies*, <https://educationendowmentfoundation.org.uk/toolkit/toolkit-a-z/meta-cognitive-and-self-regulation-strategies/>

Education Endowment Foundation, *Collaborative Learning*, <https://educationendowmentfoundation.org.uk/toolkit/toolkit-a-z/collaborative-learning/>

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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).

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).

OER4Schools, *Group Work*, http://oer.educ.cam.ac.uk/wiki/OER4Schools/Group_work, available under Creative Commons Attribution-ShareAlike 4.0.

Teaching Strategy 1

Group Formation

Facilitator Notes

This session is the beginning of a new theme: Theme 4 – Group Work.

Prior to this session, teachers should have read the overall introduction to Group Work, as well as the introduction to Teaching Strategy 1.

As always, please make sure you keep a record of attendance.

To start this session:

- Say that that we are now starting Theme 4: Group Work.
- Please briefly read out the Learning Objectives.

The introduction

- Check that everybody has read the overall introduction, and the teaching strategy introduction, and ask whether there are any questions.
- Do say that the introduction provides a lot of additional detail, which teachers should read prior to the session.

The activity

- Now skip the Introduction, going straight to the activity below.

Suggested time: 15 minutes

T4-1 i 1 Learning Objectives



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

- plan to use different strategies to form groups that can be used in any subject to support 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 pupils will form groups - there are many options and variations. The groups needs to be suited to the learning activity you want your pupils 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 idea are given after the table.

Theme 4: Group Work Teaching Strategy 1: Group Formation		
Aspect	How it works	Section
Attainment Grouping	Deciding whether to use mixed attainment groups or grouping by level of attainment.	T4-1M
Friendship Grouping	Deciding whether the pupils 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.	T4-1M T4-1S
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 pupils to do.	T4-1i
Pyramid Grouping	A strategy to work on building consensus. Pupils start by working individually, then move into pairs, then groups of four, eight, etc.	T4-1E
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 pupils 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 eight groups in total. Then go round the classroom pointing to each pupil and counting one to eight. This way each pupil 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 Grouping' 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 pupils 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 pupils 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 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 pupils 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



Facilitator Notes

Outcome. At the end of this activity, teachers should have

- discussed in pairs advantages and disadvantages of some group formation strategies and when to use them;
- shared in pairs their ideas about any other strategies for group formation they know or have used;
- discussed these ideas with another colleague they might not have worked with before.

Duration. 15-20 minutes

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



Facilitator Notes

It is now time for group work, to Plan and Practise Together.

Suggested time: 45 minutes

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).

Facilitator Notes

There are three different sections that follow, each focusing on different aspects of Group Formation.

If you want to keep the planning simpler, you could keep the group of teachers together, and select one of the sections that all teachers can do (e.g. a section on Gender Grouping). The examples focus on science and mathematics, but the Plan and Practice Together sections have ideas for several sections.

However, if you would like to challenge your teachers a bit more, then refer them to the above table, and let them choose which aspect to cover. Note that this will also make the reflection (at the start of the next session) more complicated.

As teachers start with the following sections, do remind them to not spend too much time on the Example, but to really focus on planning their own activities.

During the different task group work, you should circulate, and support the groups where needed.

T4-1 i 7 Prepare for Teach and Reflect**Facilitator Notes**

After about 45 minutes (with about 10 minutes left in the session), bring the teachers back together, and see whether anything needs to be discussed. Make sure that everybody has a concrete plan for teaching, and has recorded this in their activity plan.

Then close the session.

Suggested time: 10 minutes

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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T4-1 i 8 Sources



TESS-India, *Cooperative learning and mathematical talk: triangles*, http://www.open.edu/openlearnworks/pluginfile.php/134983/mod_resource/content/1/SM06_V2_PDF.pdf, available under Creative Commons Attribution-ShareAlike (<http://creativecommons.org/licenses/by-sa/3.0/>; unless identified otherwise).

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

Teaching Strategy 1

Organising and Forming Groups in English

T4-1 E 1 Example



How Mr Owusu Experiments With Forming Groups

Mr. Owusu prepares to teach the topic Reading Comprehension (JHS 3, Section 3, Unit 1). 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, strategy 2.

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

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

Mr. Owusu lets his pupils 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' too 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 pupils organised themselves at each stage;
- how the pupils reported back from the 'Pyramid.'

Teacher 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?

Facilitator Notes

- It is quite useful to show the grouping formations as diagrams on the board or get teachers to draw them on a poster (see figure).
- The Tutor should bring out these points about the 'Pyramid' formation:

it 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 what is in 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, works on the principle of co-operation and builds 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, principles, decisions, guidelines, that they have learnt or decided on so far.

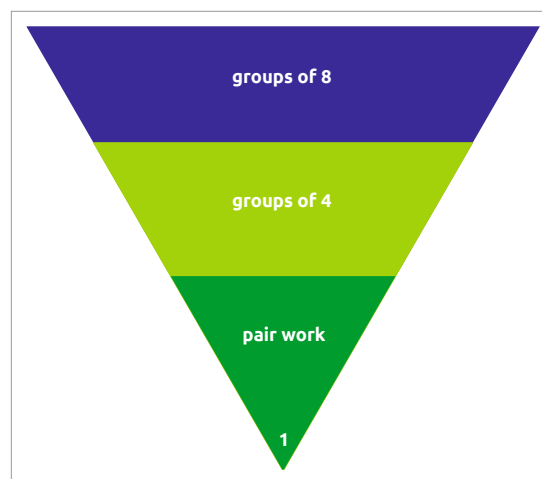


Figure 6. Pyramid group work: individual work, pairs work, groups of 4, 8, 16 (and so on).

T4-1 E 2 Plan and Practise Together



Forming Groups using the Pyramid Method

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 teaching something else, so here are some more ideas from various subjects that lend themselves to using the 'Pyramid' group formation.

The Human Body (Natural Science Syllabus, Primary 1, Section 3, Unit 1)

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

Sources of Energy (Upper Primary Integrated Science, Primary 4, Section 4, Unit 1)

You could form your groups by asking which of the topic areas from 'Sources of Energy,' interest them the most: food, sun, wind, water etc? They then get into their interest groups.

Another way of doing this is to put your pupils into groups. You then write letters 'F', 'S', 'W', 'Wa' etc on pieces of papers to represent the sources of energy respectively. Mix the papers up and ask group leaders to pick one and discuss in their various groups, the source of energy topic they have picked. Why would you use this approach? Could you use any other strategy?

Money and Taxes (JHS Maths Syllabus (1-3), JHS 3, Unit 3.5)

Think about how you would organise your class that will get pupils to talk about the subject, 'Money and Taxes,' and not feel awkward or 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 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.

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 pupils. 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 pupils 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 pupils, especially girls, 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 pupils during the week.

Facilitator Notes

T4-1 E 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 pupils during the week.

T4-1 E 4 Reflect Together



Forming Groups using the Pyramid Method

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 work in your class best? Why?
- What have you learnt about your pupils by trying out different forms of group work?

Facilitator Notes

Teaching Strategy 1

Group Formation in Mathematics

T4-1 M 1 Example



How Ms Suglo Experimented With Different Ways of Forming Groups

Here is Ms Suglo's experience of group formation.

I am Ms Suglo and I am a teacher at a school near Koforidua. I love it when my pupils 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 class that I would like to address next:

- **Gender issues:** Some of the female pupils 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 pupils varies greatly. There are some real 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 and I do believe that all pupils can become good at mathematics. I know some of the lower attaining pupils have missed out on good mathematical learning opportunities in school: 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 too 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 or not 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 pupils to add to my observations about what worked best to support their learning. So I involved my pupils 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 Vectors' (JHS Mathematics Syllabus, unit 2.9).

What did the pupils 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 pupils, the activity, and the kind of learning I want my pupils 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 pupils, their likes, dislikes and anxieties in terms of learning mathematics to support them to do well.

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

Was there anything that stopped you progress 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 help 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 to others.

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!

Figure 7. Ms Suglo's questionnaire

Teacher Discussion

Discuss with your teacher colleagues:



- Have you noticed similar issues in your classes as Ms Suglo had in hers? If yes, what are they?
- What do you think about involving the pupils 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.

Facilitator Notes

T4-1 M 2 Plan and Practise Together



Forming Groups in Mathematics

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

Properties of Quadrilaterals (Mathematics)

Experiment with different group formations, eg same gender groups, friendship groups, mixed attainment groups, when teaching 'Properties of Quadrilaterals'. Group activities could be 'what is the same and what is different about the interior angles of different quadrilaterals', 'what is the same and what is different about the sides of different quadrilaterals'.

Reference: JHS Mathematics Syllabus 2012, Unit 2.10, p. 44.

Measurement of Length, Area, Capacity and Mass (Mathematics)

Ask the pupils to work in groups of three, four, five or six to come up with three different examples where they would use different measurements, that is length, area, capacity or mass. Can you see a difference in the motivation of the pupils depending on the group size?

Reference: Primary Mathematics Syllabus 2012, Unit 1.9, p. 13-14.

Measurement of Time (Mathematics)

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

Reference: Primary Mathematics Syllabus 2012, Unit 5.16, p. 107-108.

Plan Your Own 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 pupils. 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 use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your pupils, especially girls, 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 pupils during the week.

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

Facilitator Notes

- When forming groups, the teachers should think of this in terms of what group formation would help the learning of the students best.
- It could be helpful to discuss with the teachers the comment that Ms Suglo made in the last paragraph of the example ('What did the pupils and I learn from this?') and ask for the teachers' view on this.

T4-1 M 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 pupils during the week.

T4-1 M 4 Reflect Together



Forming Groups in Mathematics

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 pupils 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 pupils?

Facilitator Notes

Remind the teachers to write down their thoughts in their learning journal, in particular about what they learned from this unit that was most effective in improving their teaching, and the challenges they faced that they want to address.



Theme 4: Group Work

Teaching Strategy 1

Group Formation in Science

T4-1 S 1 Example



Grouping by Gender

Teacher 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 spends some time thinking about her own school experience of group work in 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 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 teaching colleagues 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 teachers were mostly males. It also helped us to explore further and take more interest in science, especially the experiments.



Figure 8. 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 during in group work.

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

Hilda asks her pupils, before she introduces them to group work, to talk about their own experience of learning science at school. She brainstorms the question: *'What are the different types of groups that you can form when doing group work?'* before focusing on the idea of grouping by gender.

Pupils think individually about their own experience of learning science through the lens of gender: What gender issues do they face? They pair up with a partner who is the same gender and share their recollections. After talking together in a same gender pair for a few minutes the pairs form a square with another same gender pair. The groups think about strategies to implement to try and compensate for the issues that occur when mixed gender groups are not equally productive for both genders.

As the group discussions come to an end Hilda gives each group a copy of her Gender Checklist to compare their strategies with and she asks them to write any additional strategies that their group came up with on the back of the sheets. She collects these in at the end of the lesson.

Teacher Discussion



Briefly share your own school experience of group work in science (through the lense of gender) and then discuss the following questions:

- What do you think of the idea of single gender colleges?
- What are the advantages and disadvantages of gender grouping in your subject area?
- What do you think about the idea of students recording details of group work participation in their books so that they can keep track of whether or not they have worked in a single gender group/mixed gender group as a minority/mixed gender group as a majority/balanced mixed gender group?
- Do you see any advantages or disadvantages to raising awareness of these issues?
- What could Hilda do with the information that the pupils recorded on the back of the gender checklist sheets?

Facilitator Notes

What could Hilda do with the information that the teachers recorded on the back of the Gender Checklist sheets? Pupils may come up with some useful suggestions that are not on the list and they can be added.



Figure 9. A group of female student teachers having an animated discussion in science

T4-1 S 2 Plan and Practise Together



Grouping by Gender Across the Curriculum

If you are teaching in a mixed gender school try an activity this week (you could choose a talk for learning activity) with your pupils 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 pupils in single gender groups are getting on (how effective is their learning?) compared to those in mixed gender groups and be prepared to talk about your observations next week.

If you are teaching in an all male or all female school plan an activity with your pupils 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 pupils' 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 checklist in groups and ask pupils to write a collaborative summary of their thoughts about it or you could do Hilda's lesson with your pupils.

With younger pupils you can do a talking points activity. Come up with some statements that will help pupils to think about gender issues with the aim of promoting a more gender equal classroom where all points of view are treated with respect. Here are some points that you can use:

- Girls need an education just as much as boys do.
- Girls are just as interested in going to school as boys are.
- Girls and boys should have separate toilet facilities at school.
- Boys should be taught by male teachers and girls should be taught by female teachers.
- Textbooks have images and stories of boys and girls in important roles/jobs.
- Girls are better at doing jobs at home than boys.
- Boys are better at studying and school work than girls.
- Science is a boys' subject.
- There are no famous female scientists.

Remind pupils that the talking points are not necessarily true but are designed to get them talking about gender issues. Plan how you will address any gender stereotypes in a whole class plenary after groups have discussed the talking points.

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 pupils, especially girls, 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 pupils during the week.



Facilitator Notes

Here is an optional activity where teachers and older pupils complete the gender checklist audit in T4-1S5 Further Resources:

- The pupil completes it from the perspective of the teacher i.e. how much they think their teacher does a particular gender responsive activity.
- The teacher completes it from their own perspective.
- The marks are compared and discussed.
- Look out for differences in perception between males/females.
- Do the activity again after a few months.

teachers can choose to do this activity with their pupils before (or after) they do the activity that they planned.

T4-1 S 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 pupils during the week.

T4-1 S 4 Reflect Together



Grouping by Gender Across the Curriculum

Now that you have done an activity with your pupils 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 school, consider the following questions:

- How useful was your activity for getting pupils of the same gender to build on what each other said?
- Did pupils engage with the activity on a different level due to being in same gender groups? How do you know?
- What feedback did you take from the pupils 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?

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

- What activity did you choose to raise awareness of gender issues with your pupils? 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.

Facilitator Notes

Leave some time to talk about the checklist audit. Anyone who has not completed it can do it now.

T4-1 S 5 Further Resources



A Gender-Responsive Pedagogy checklist

A checklist of actions that teachers can take to make their classrooms gender responsive:

1. **Be conscious of the number of questions asked/answered by boys and girls and the amount of attention you give:** if boys ask/answer more, teachers should make an extra effort to encourage girls 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 in girls and ensure that girls 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 boys sit at the front and dominate? Are the girls in a corner and left alone? If so, actively re-arrange 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 girl groups** - Girls tend to enjoy and benefit from a non-competitive, collaborative dynamic of working with other girls. However, boys should also be made aware that they shouldn't dominate and that all voices should be heard. One strategy is to start with all girl groupings and transition into mixed groups gradually, while also setting ground rules for speaking and leadership roles.
 - **Groups in which there are mostly girls, and 1 or 2 boys** – 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 (girl or boy) 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 girls 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, girls as doctors) and encourage both females and males 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 girls' needs to occasionally leave the class for the bathroom: girls 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 boys).

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 now based on how much you 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 teachers can take to make their classrooms gender responsive:		
	now (out of 10)	later (out of 10)
1. Be conscious of the number of questions asked/ answered by boys and girls and the amount of attention you give.		
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: All girl groups Groups in which there are mostly girls, and 1 or 2 boys 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 girls in their work.		
10. Be sensitive to girls' needs to occasionally leave the class for the bathroom or 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 S 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



Theme 4: Group Work

Introduction to Teaching Strategy 2

Managing Group Work

PDC Notes

Prior to this session, teachers should have read the introduction to Teaching Strategy 2.

As always, please make sure you keep a record of attendance.

To start this session:

- Please briefly read out the Learning Objectives.

The introduction

- Check that everybody has read the overall introduction and ask whether there are any questions.
- Do say that the introduction provides a lot of additional detail, which teachers should read prior to the session.

The activity

- Now skip the Introduction, going straight to the activity below.

Suggested time: 10 minutes

T4-2 i 1 Learning Objectives



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

- Use strategies for managing group work so it can run smoothly and effectively.
- Plan group work so that all pupils are engaged.
- Use well-managed group work in the classroom to help pupils 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	Section
Assign Roles and Responsibilities to Group Members	A strategy to make sure all pupils in a group participate and the ideas get recorded.	T4-2S
Develop Constructive Feedback Skills	Developing constructive feedback skills with your pupils can improve their attainment and can change your classroom into a co-operative learning environment.	T4-2M
Set Up Rules and Routines	This strategy will ensure your pupils 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.	T4-2E

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 pupils 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. Pupils 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 pupils 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 pupils to do activities in groups is that some individuals in the group can be too controlling or not participating; there is 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 pupils 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 pupils 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 pupils 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 pupils) teacher'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



Facilitator Notes

Outcome. At the end of this activity, teachers should have

- engaged with the text about the teaching strategies for managing group work by thinking and writing down at least one advantage and disadvantage for each;
- discussed these and got more ideas from talking to at least five colleagues they might not normally work with.

Duration. 15-20 minutes

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



PDC Notes

It is now time for group work, to Plan and Practise Together.

Suggested time: 45 minutes

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 pupils.

Refer back to the gender section in the introduction to T4 and T4-1 if necessary.

Facilitator Notes

There are three different sections that follow, each focusing on different aspects of Managing Group Work.

If you want to keep the planning simpler, you could keep the group of teachers together, and select one of the sections that all teachers can do.

However, if you would like to challenge your teachers a bit more, refer them to the above table, and let them choose which aspect to cover. Note that this will also make the reflection (at the start of the next session) more complicated.

As teachers start with the following sections, do remind them to not spend too much time on the Example, but to really focus on planning their own activities.

During the different task group work, you should circulate, and support the groups where needed.

T4-2 i 5 Prepare for Teach and Reflect



Facilitator Notes

After about 45 minutes (with about 10 minutes left in the session), bring the teachers back together, and see whether anything needs to be discussed. Make sure that everybody has a concrete plan for teaching, and has recorded this in their activity plan.

Then close the session.

Suggested time: 10 minutes

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

Managing Group Work in English

T4-2 E 1 Example



Group Work Management Ideas

Your facilitator will organise you so that you will read different ways to manage group work. After reading and discussing, do the task under the teacher 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 and 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 teacher should not do the moving – the pupils should. Put the pupils into 'Furniture Teams' so that pupils 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 pupils 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 teacher 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 10. Moving the desks in preparation for group work

Changing Places

Get pupils to change where they sit on a regular basis. If pupils 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 get used to it. There are lots of advantages in mixing up the pupils. If the teacher 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 teacher pays attention to different pupils each time. Difficult pupils behave differently with different partners and by mixing them up the teacher can find out which other pupils have a positive effect on the difficult ones. Seemingly, random mixing of pupils helps take away pupils' 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 pupils in. For example, the teacher works out a plan to group the pupils in three ways: in single ability groups, in mixed ability groups, and in 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 teacher wants to emphasise or revise.

Finding Friends

An alternative is to use different warmers and short games to put the pupils into new pairs and groups. The warmer activity takes away pupils' reluctance to get out of their seats and move somewhere new. You can do this by using the class's own *characteristics*: all the pupils 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*: football teams, learning preferences, favourite foods. Or you can use *pairs*: pupils get cards or slips of paper with something written on it which they have to match:

Sadiq	Verb
Beautiful	Noun
Singing	Adjective

Teacher Discussion



After you have read your text and your tutor has cross-grouped you, fill in the table below.

GW management idea	Advantages	Disadvantages	Use/not use?
Furniture teams			
Changing places			
Finding friends			

Facilitator Notes

T4-2 E 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 teaching something else, so here are some more ideas from various subjects that lend themselves to one of the management ideas above.

Systems/Farming Systems (JHS Integrated Science, JHS 1, Unit 1)

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

Collecting and Handling Data (JHS 1 Maths Syllabus, Unit 14)

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

Plane Shapes (Primary 3 Maths Syllabus, Unit 3.9)

Use the 'Finding Friends' idea for managing group work and consider the reasons why you would use it in your lesson. In this example you could use shapes and words, one pupil has the shape, the other the word. They have to find each other.

Can you use any of the ideas above? If not, consult your syllabus, 'Design an Activity' and use one of the 'Managing Group Work' ideas with the activity.

Plan Your Own 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 pupils, especially girls, 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 pupils during the week.

Also look at introduction to T3-1. The **observation tool** can be used when you observe each other in class. This observation tool focuses specifically on how a teacher manages the pupils in class.

There is also a **checklist** you can use to help you when you use group work with your pupils.

Facilitator Notes

- Organise this session so that you have 3 groups of teachers. Give each group one of the 'Management Ideas'. Ask them to think about the advantages and disadvantages of each. Also if they could use the ideas with their own classes. Why/ why not?
- Then cross- group them to share ideas and fill in the table under Teacher Discussion.

See the Observation Tool above and use this during the lessons you observe but also as a guide for reflection after you have tried out the 'Management Ideas'.

T4-2 E 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 pupils during the week.

T4-2 E 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.



Facilitator Notes



Teaching Strategy 2

Managing Group Work in Mathematics

T4-2 M 1 Example



How Mr Zakaria Managed Group Work in his Mathematics Class

Mr Zakaria is a teacher in a school in Accra. He has been using group work in his teaching practice and the learning of the pupils 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 pupils for some weeks 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 pupils learn from each other. This made me re-evaluate my role as a teacher: I do not have to be the person that holds all the knowledge. So I would like to make the process of the pupils 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 pupils for peer review when feeding back group findings to the whole class. I had found some questions that would stimulate this to happen (Hattie and Timperley, 2007). 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 for a drink at the end of that week to help me reflect on the overall experience. The maths topic for that week was 'LCM and HCF' in 'Sets of Numbers' (Unit 6.1). I used activities from previous T-TEL strategies such as 'Always, Sometimes, Never True' and 'Find Three Examples Of'.

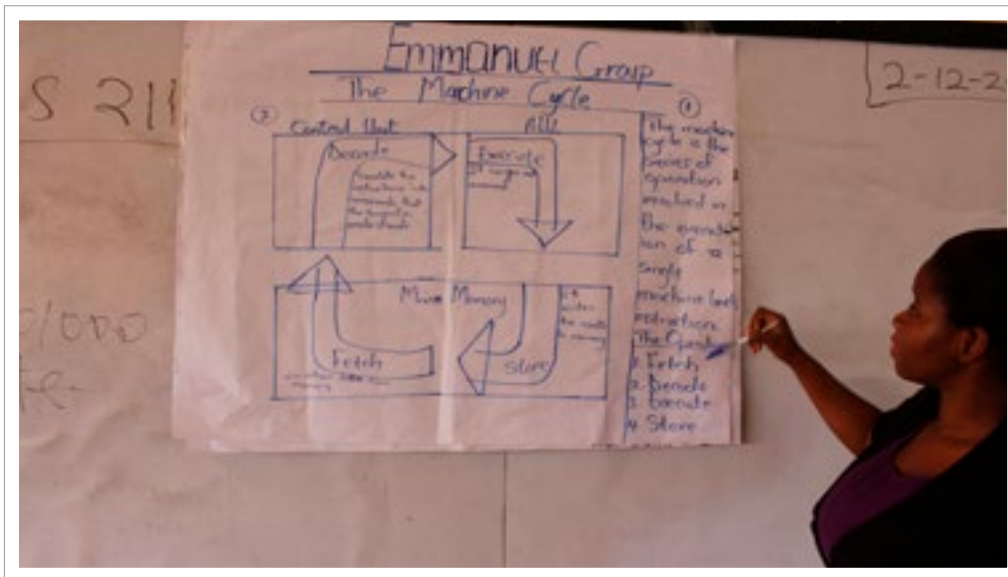


Figure 11. A student teacher responds to a question from the class during whole class feedback

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 pupils. Decide who will take on the following responsibilities in your group for this activity (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:

- where you would use lcm (lowest common multiple)
- where you would use hcf (highest common factor)

For example, you want to make hot dogs. The buns are sold in packets of eight and one hot dog tin has six hot dogs. How many packets and tins will you need to buy to have as many hot dogs as buns? This is an example of where you would use the lcm. You can find a funny video clip illustrating this hot dog and bun problem on <https://www.youtube.com/watch?v=oYIHLUxzRr8>

Then come up with a description of what is the same and what is different in the way you work out lcm and hcf.

Giving feedback and reporting

Practise giving feedback to yourself as a group by using the following questions:

- Where are we going? Are we tackling the questions of this activity?
- How are we doing? Are we making progress in tackling the questions?
- Where to next? What can we do next to answer 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 we going? Are we tackling the questions of this activity?
- How are we doing? Are we making progress in tackling the questions?
- Where to next? What can we do next to answer the questions or to even go beyond answering the questions?

Make sure 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 ..."

Teacher 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 pupils to give feedback to each other. How do you think this will support his pupils to do so?
- Would you use the same instructions or what would you say differently?

Facilitator Notes

T4-2 M 2 Plan and Practise Together



Managing Group Work in Mathematics

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

Collecting and Handling Data (Primary Mathematics)

Try giving pupils different roles within their groups when teaching methods of collecting and handling data

Reference: Primary Mathematics Syllabus 2012, Unit 6.9, p. 127-128.

Investigations with Numbers (Primary Mathematics)

Ask the pupils to use the same questions to help with giving constructive feedback as in the example when investigating number patterns in groups .

Reference: Primary Mathematics Syllabus 2012, Unit 4.3, p. 63-64.

Numbers and Numerals (JHS Mathematics)

Assign roles to pupils in their groups when asked to do a group work activity on numbers and numerals.

Reference: JHS Mathematics Syllabus 2012, Unit 1.1, p. 1-6.

Plan Your Own 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 use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your pupils, especially girls, 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 pupils during the week.

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

Facilitator Notes

T4-2 M 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 pupils during the week.

T4-2 M 4 Reflect Together



Managing Group Work in Mathematics

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 pupils?
- Did female and male pupils 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.

Facilitator Notes

T4-2 M 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 M 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).

TESS-India, *Using groupwork*, http://www.open.edu/openlearnworks/pluginfile.php/135225/mod_resource/content/1/KR07_PDF.pdf, available

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Teaching Strategy 2

Managing Group Work in Science

T4-2 S 1 Example



Assigning Roles to Group Members for a Diamond Nine Activity

Victor is a teacher working in a school in the Aburi region. 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 teacher group meeting, Victor is challenged to think again about his rationale for doing group work with his pupils.

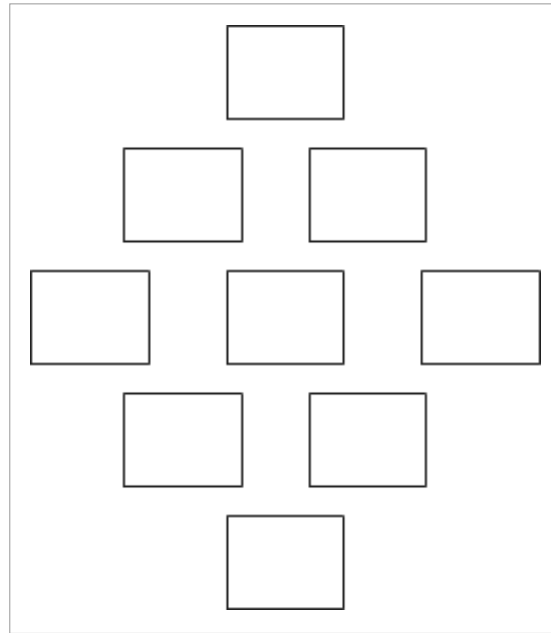
Since doing group work with my pupils some of them have grown in confidence and are very happy to take on a leadership role within their groups. I want to focus now on developing the pupils 'soft' skills so that they all can take an active part in an ever-demanding workplace. I am reminded that group 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 pupils 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.

Teacher 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.
 - 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 (nine organs and nine slips of paper) and discuss in their groups what order to put them and why.
- Note - the actual order matters less than the quality of talk during the structuring/sorting process.

Teacher Discussion



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

- How can you make sure that pupils experience a variety of roles across different activities (to make sure that students are not 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?

Facilitator Notes

It might be a good idea to quickly demonstrate the basic 'Diamond Nine' activity in the example so that tutors understand it well.

Pupils can make a note of their role on their classwork material for the lesson (perhaps an initial in the top right hand corner that they can refer to easily). This way they can keep track of the roles they have been doing.

Assigning roles can be used as a classroom management technique by making it easier to keep everyone on task as they have a specific job to do.



Figure 12. Student teachers planning a group work activity for use in the classroom

T4-2 S 2 Plan and Practise Together



Assigning Roles to Group Members Across the Curriculum

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 that you can use the 'Diamond Nine' technique with:

JHS

Ask pupils to arrange nine diseases (you can vary these depending on the question asked) in order of either:

- most likely to be caused by human beings to least likely to be caused by human beings or
- most severe symptoms to least severe symptoms or
- hardest to prevent to easiest to prevent etc.

Here is a list of diseases to use:

- Tuberculosis (T.B.)
- HIV/AIDS
- Buruli Ulcer
- Cerebrospinal Meningitis (CSM)
- Influenza
- Black Pod
- Hepatitis
- Yellow fever
- Cholera
- Typhoid
- Chicken pox
- Swollen shoot

Reference: National Syllabus for Integrated Science (Junior High School), JHS 2, Section 5: Interactions of Matter, Unit 1, "Infectious Diseases of Humans and Plants".

Upper Primary

Arrange these nine uses of metals in order of importance:

- Construction of bridges.
- Construction of buildings.
- Construction of dams.
- Building cars.
- Building trains
- Building aeroplanes.
- Used in cutlery.
- Used in agricultural tools.
- Used in computers.

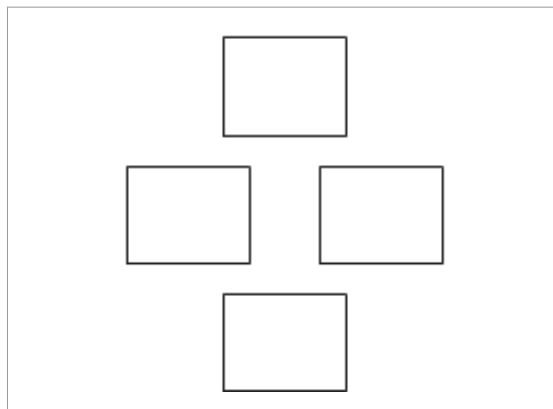
Reference: National Syllabus for Integrated Science (Primary 4-6), Primary 4, Section 1: Diversity of Matter, Unit 1, "Metals and Non-Metals", 1.1.5 state some uses of metals in everyday life.

Lower Primary

Name different kinds of materials, such as plastics, rubber, paper, metals, glass, textile, wood and stone (add cork or other material to make up to nine). Give examples of things made from these materials.

As a whole class, arrange the materials in a diamond according to the usefulness of the material (i.e. how many things are made with it). Model asking pupils to justify their ideas and get pupils to help run the activity by giving them different jobs to do; for example, nine pupils hold a picture of each material type (or hold an a piece of material each) and they move into position to form the diamond.

Very young pupils can do a diamond 4 activity like this:



Reference: National Syllabus for Natural Science (Primary 1-3) Primary 1, Section 1: Diversity of Matter, Unit 1, "Living and Non-Living Things", 1.1.6 identify some common non- living materials around us.

English

Do a quick brainstorm on types of punctuation. Pupils arrange the nine most important punctuation marks in order of how necessary they are for understanding what is written. Here are some that they might say:

- capital letter
- full stop
- comma
- apostrophe
- question mark
- speech marks
- colon
- semicolon
- dash
- brackets
- ellipsis

Use a diamond 4 activity for very young pupils and use pictures of the punctuation marks. For older pupils use words and pictures. Give groups a short paragraph to read with the punctuation removed. This will help them to focus on what is important (for understanding) about the different punctuation marks. Make sure the punctuated version contained all of the different punctuation types that they are thinking about.

Reference: Primary English Syllabus 2012, Primary 4, Section 4: Writing, Unit 2, "Punctuation Marks".

Reference: Primary English Syllabus 2012, Primary 6, Section 4: Writing, Unit 2, "Punctuation Marks".

Maths

Pupils do a diamond 9 fractions and decimals activity. They arrange the fractions and decimals in order from highest to lowest. Those in the same row should be equal. An example is, arrange these numbers in a diamond 9:

- 0.9 [highest]
- 0.66
- $\frac{2}{3}$
- $\frac{1}{3}$
- 0.33
- $\frac{2}{6}$
- 0.06

- 6/100
- 0.1 [lowest]

The numbers are written randomly on the board and pupils copy them on to their pieces of paper. The activity can be adapted by changing the numbers (and thus the level of challenge) depending on the age group or ability of pupils.

Reference: Primary Mathematics Syllabus 2012, Unit 6.5, “Decimal Fractions and Percentages”.

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 pupils. Make sure to include notes on the the following:

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

If you teach younger pupils, plan how you will model good group work skills when managing a whole class 'Diamond Nine' activity. Make a list of questions you will ask and phrases you will use. Also include in your plan the jobs you will give to pupils.



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 pupils, especially girls, 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 pupils during the week.

Facilitator Notes

Get teachers to think about how pupils can improve their performance in their role. What makes a good leader/scribe etc? They should think about this and try to build it into their planning. They may decide to take specific feedback from groups after the activity about how well group members conducted themselves or to highlight good practice that they have observed.

A4 sheets of paper are needed for the 'Diamond Nine' activity.

T4-2 S 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 pupils during the week.

T4-2 S 4 Reflect Together



Assigning Roles

Now that you have assigned different roles to your pupils 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 pupils to take on different roles? Did they all take an active part in the group activity?
- Did the activity move your pupils' subject learning on? How do you know?
- Was the assigning roles strategy useful for improving pupils' '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.

Facilitator Notes

Assigning roles helps to distribute responsibility to group members and makes everyone accountable for the group's progress. For bigger groups it will be necessary to have additional roles or for two people to share a role.

Introduction to Teaching Strategy 3

Types of Group Work

Facilitator Notes

As always, please make sure you keep a record of attendance.

To start this session:

- Please briefly read out the Learning Objectives.

The introduction

- Check that everybody has read the overall introduction and ask whether there are any questions.
- Do say that the introduction provides a lot of additional detail, which student teachers should read prior to the session.

The activity

- Now skip the Introduction, going straight to the activity below.

Suggested time: 10 minutes

T4-3 i 1 Learning Objectives



By the end of the session student teachers 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 pupils learn effectively.

T4-3 i 2 Introduction



Pair and group work can be a very effective tool in improving the learning of your pupils. 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	Section
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.	T4-3M
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.	T4-3S
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).	T4-3E
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 suggestions for a pattern of planting to suggest to the farmer. Explain your suggestions with reasons. Please remember that the shrubs should not be overshadowed by the trees. They must 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 to the headteacher about the size and shape of the tables and chairs. 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 pupils 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



Facilitator Notes

Outcome

At the end of this activity, student teachers should have

- discussed at least some of the teaching strategies suggested above
- had a go at trying out and experiencing the teaching strategy 'different task group activity' for the scenario described below
- discussed how this teaching strategy can improve learning

In your groups, have a brief chat (two minutes) to your teacher 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 blue tack).

Facilitator Notes

The make a body activity should be quick and fun. You will need to give the different groups different organs to draw. Make sure to include the major ones (heart, lungs, brain, stomach, kidneys, liver, bladder, intestines, pancreas) and depending on how many groups you have (small groups of three or four will work best) you can also add other organs (e.g.eyes, gallbladder etc). There should be lots of Talk for Learning during the activity.

You will need a few big sheets of paper, scissors and tape.

Teacher 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 | 4 Plan and Practise Together



Facilitator Notes

It is now time for group work, to Plan and Practise Together.

Suggested time: 45 minutes

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

Facilitator Notes

There are three different sections that follow, each focusing on different aspects of Different Types of Group Work.

If you want to keep the planning simpler, you could keep the group of student teachers together, and select one of the sections that all student teachers can do.

However, if you would like to challenge your student teachers a bit more, then refer them to the above table, and let them choose which aspect to cover. Note that this will also make the reflection (at the start of the next session) more complicated.

As student teachers start with the following sections, do remind them to not spend too much time on the Example, but to really focus on planning their own activities.

During the different task group work, you should circulate, and support the groups where needed.

T4-3 i 5 Prepare for Teach and Reflect



Facilitator Notes

After about 45 minutes (with about ten minutes left in the session), bring the student teachers back together, and see whether anything needs to be discussed. Make sure that everybody has a concrete plan for teaching, and has recorded this in their activity plan.

Then close the session.

Suggested time: 10 minutes

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 pupils 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 pupil 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 pupils 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 pupils 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



Theme 4: Group Work

Teaching Strategy 3

Types of Group Work in English

T4-3 E 1 Example



How Ms Abu Used Group Work to Revise 'Prose and Poetry' With Her Pupils

Ms Abu wants to do a review of an entire book to prepare her pupils for the upcoming semester exams. She decides to put her pupils into groups to let them revise the book in a cooperative 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 book.'
- 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 pupils (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
1. Characterisation
Who are the main characters in the book?
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 pupil 1, 2, 3, 4. She then allocates tables for Group 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.



Figure 13. Student teachers working in a group

Teacher 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?

Facilitator Notes

T4-3 E 2 Plan and Practise Together



Types of Group Work Across the Curriculum

We are now going to plan our 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'.

Doing Words (English Primary (1-3) Syllabus, Primary 2, Section 2, Unit 6)

Design a worksheet suitable for the group formation 'Mingling', for example, Find Someone Who.... likes swimming/ dancing/ cooking/ playing football etc.

Go through the instructions for this type of grouping.

Life Cycle of Flowering Plants (JHS Integrated Science Syllabus, JHS 1, Unit 1)

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

Sets (JHS (1-3) Maths Syllabus, JHS, Unit 2)

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 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 pupils, especially girls, 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 pupils during the week.

Facilitator Notes

Facilitators should guide the teachers to look at the Introduction to the Strategy again or below, under Further Resources, so that they can refresh their memories on other types of group work, such as, 'Onion', 'Mingling', 'Horseshoe' and 'Pyramid'.

T4-3 E 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 pupils during the week.

T4-3 E 4 Reflect Together



Types of Group Work

Now that you have tried different types of group work with your pupils, as a reflection activity, do the following:

- Allocate a type of group work to different groups e.g. 'Mingling to one'; 'Onion to Another' etc;
- Ask them to come up with the advantages and challenges of using that specific type of group work and also provide some helpful tips;
- Ask them either to (a) make a poster or (b) cross group them to share their ideas.

Facilitator Notes

T4-3 E 5 Further Resources



More Types of Group Work

It is important to make it clear to your 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 teachers can share their different information.

Cross-Grouping

'Cross-grouping' is a cooperative 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 cooperative 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 pupils into 'As' and 'Bs'.
- Instruct As to make a circle and then to turn around (so they face outwards not inwards).
- Then ask '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. 'As' do not move.
- Give each 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 pupils 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 another example: see Creative Approaches T1-1E.

Teaching Strategy 3

Structuring Group Work Activities in Mathematics

T4-3 M 1 Example



How Miss Hilda Structured Activities for Group Work in Mathematics

Miss Hilda is a teacher at a school in the Northern Region. The class she teaches is large and has over 70 pupils. 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 pupils, one of the other things I would like to address is how to involve all of them in the learning activities. 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 pupils 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 pupils 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 a test lesson I wanted to do on 'operations of fractions' (Primary Mathematics Syllabus 2012, Unit 6.2, p111-113) including

- Compare 2 proper fractions
- Order fractions
- Add and subtract fractions
- Multiply fractions
- Divide a whole number by a fraction

For this, I will ask the pupils 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 pupils will be present.

I find lessons on preparing for tests somewhat tricky and often boring: more repetition at break neck speed, practise lots maths questions, little time to address the questions of the pupils 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. It never did for me when I was a pupil. 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' is this:



Figure 14. Swing carousel

Carousel of Ideas for Revision

Tell your pupils the following:

- Take your notebook.
- Find the maths questions that you think relate to the mathematics you will be tested on.
- 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 problem.
- 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 the ideas that work for you to get unstuck in your notebook so you can use these when you are revising on your own.

Then, if time:

- Pretend you are an author of test questions. Can you come up with three new questions on this topic that could be used in the test – 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 the next lesson. At the other hand, even if they do not finish all the topics, I think the pupils 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, like this:

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

At the end of the lesson, the pupils can put these papers on the walls for all to see and copy ideas to help them with their revision.

Teacher 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 pupils 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?

Facilitator Notes

T4-3 M 2 Plan and Practise Together



Structuring Group Work Activities Across the Curriculum

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 three more ideas that lend themselves to structuring activities for group work by using the 'Carousel of Activities' strategy :

Triangular and Square Numbers (Mathematics)

Use different-task group work and set it up as a 'Carousel Activity' to find patterns of square and triangular numbers.

- Stations one, two and three: arrange the countable objects that you have been given into a growing pattern of square numbers. Can you come up with a way to describe this pattern of square numbers? What would the 10th term in this sequence look like? What about the 100th term?
- Stations four, five and six: arrange the countable objects that you have been given into a growing pattern of triangular numbers. Can you come up with a way to describe this pattern of triangular numbers? What would the 10th term in this sequence look like? What about the 100th term?

Reference: Primary Mathematics Syllabus 2012, Unit 6.11, p. 132-133.

Test preparation (Mathematics)

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

Reference: Primary Mathematics Syllabus 2012, any units.

Reference: JHS Mathematics Syllabus 2012, any units.

Linear Equations and Inequalities (Mathematics)

Set up as a 'Carousel Activity' several group work tasks that ask the pupils to explore some of the topics on 'Linear equations and inequalities' they might find hard. For example:

- Stations one and two make posters with examples and tips on how to translate linear equations and inequalities into word problems
- Stations three and four make posters on with examples and tips on how to translate word problems into linear equations and inequalities
- Stations five and six make posters with examples and tips on how to on illustrate solution sets of inequalities on a number line.

Reference: JHS Mathematics Syllabus 2012, Unit 2.4, p. 34-35.

Food and Nutrition (Science)

Have a 'Carousel of Activities' on the theme of food and nutrition. For example:

- Stations one and two make or complete a table where they classify different food items that you bring in. They classify them into four different groups of food substances as follows:
 - carbohydrates
 - protein
 - fat and oil
 - vitamins and minerals
- Stations three and four make posters on the importance of the four different groups of food substances to the body. Have books and handouts for them to look at.
- Stations five and six do simple tests for the presence of sugar and fats and oil in food samples.
- Stations seven and eight use animal feed ingredients to prepare a balanced ration for feeding poultry. They draw a pie chart of the components of their balanced broiler ration.
- Stations nine and ten make a list of (or write a creative/dramatic piece on) what malnutrition is and its effects in humans. Have something for them to watch or listen to if possible; if not, have reading material available.

Reference: National Syllabus for Integrated Science (Junior High School), JHS 2, Section 4: Energy, Unit 2, "Food and Nutrition".

Plan Your Own 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 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, 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 use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your pupils, especially girls, 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 pupils during the week.

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

Facilitator Notes

T4-3 M 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 pupils during the week.

T4-3 M 4 Reflect Together



Structuring Group Work 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 pupils that you had not expected or that surprised you? If so, why do you think these happened?

- Did all your pupils participate in the 'Carousel' work arrangement?
- What progress have they made in their learning through these activities?

Facilitator Notes

T4-3 M 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: swing carousel(grona lund) by Giulio Mola. <https://www.flickr.com/photos/ientu/3721100419> CC BY-2.0. <https://creativecommons.org/licenses/by/2.0/>



Figure 15. Groups of student teachers working on a variety of tasks in a class



Theme 4: Group Work

Teaching Strategy 3

Types of Group Work in Science

T4-3 E 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 pupils together so that group members need each other to succeed); it emphasises individual accountability and achievement of group goals. Pupils' 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 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.

Teacher 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 pupils at the same time. But it is going to take some planning!

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

- Activity one: experiment to demonstrate that soil is made up of minerals, air, water and living organisms.
- Activity two: experiment to demonstrate separation of soil into gravel, sand, silt, clay and organic fractions.
- Activity three: functions and uses of soil.
- Activity four: physical properties of soils and their importance.

- Activity five: soil profile, meaning, descriptions and importance.

Working Out How to Form the Groups for the Jigsaw

Teacher 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 pupils to help the activity run smoothly.

This is how he works the group sizes out:

- number of pupils = 40
- number of activities/subtopics = 5 (this will be the number of pupils per group in second round)
- number of pupils 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 pupils per group = 4 in first round (5 in second round)
- number of groups in first round of 'Jigsaw' = number of subtopics x 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:

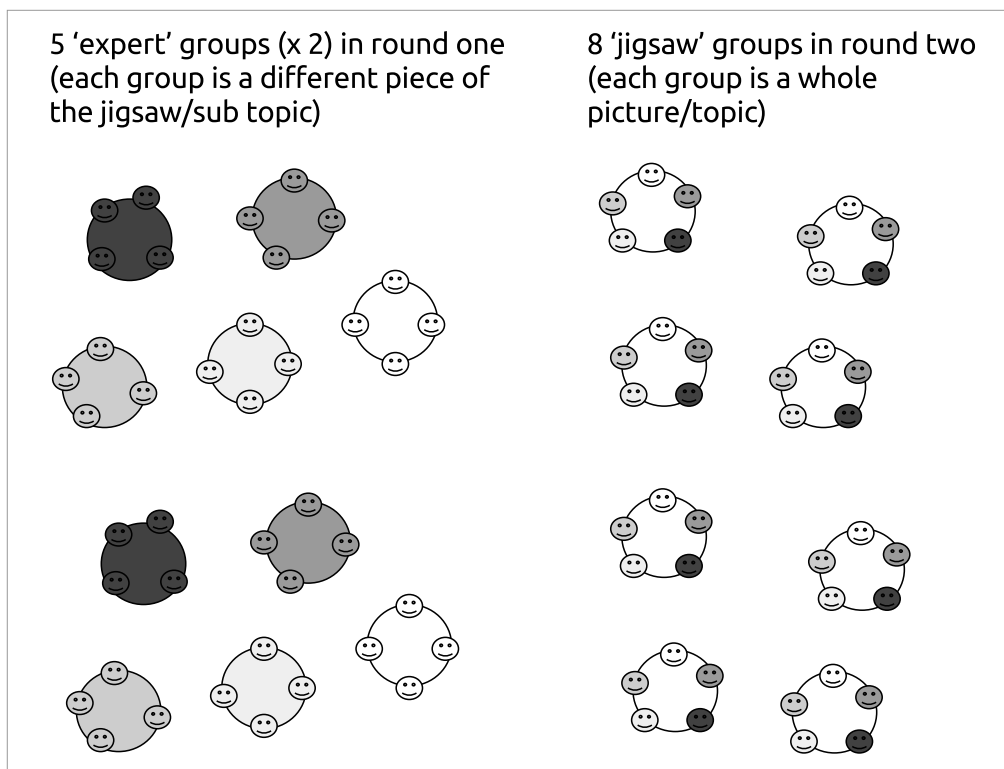


Figure 16. How to arrange round one and round two groups in a 'Jigsaw' activity

Salifu prepare 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 next week - group of experts (composed of one member each from the first round groups).

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

Salifu first puts the pupils 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 pupils 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 pupils decide who will go off and become an expert in which activity and they then 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 pupils then reconfigure as the expert groups (ten groups of four; number groups) and begin working on their chosen activity. Salifu checks that all pupils 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 pupils 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

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 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 pupils read a handout given to them by the teacher 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 pupils in these groups are reading a handout that teacher 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.



Figure 17. Using cards to keep track during a 'Jigsaw' activity

Teacher Discussion



Think of how to organise the groups for a class of 46 pupils 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							

How can you manage the scenario where you end up with some groups that have an extra person in them, for example A1 A1 B1 C1 D1 (A1 is the extra person in this group)? What happens to the round two groups? What individual pupils' needs will you take into account to decide the best way to accommodate 'extra' group members?

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 pupils become experts in the task with the right level of challenge for their ability? Is it important to do so? Why?

Facilitator Notes

Here are some potential drawbacks when using this technique:

- All tasks need to take roughly the same amount of time (groups may need to be occupied until others finish).
- An important group member may be missing on day two (for round two).
- Someone might have missed round one.

What are the different ways that Salifu could give the groups the instructions for their task? Discuss the advantages and disadvantages of these.

- on the board (easy to do but might be difficult for all to see)
- on a handout (easier to refer to but need to be prepared in advance)

The 'Jigsaw' technique offers great opportunities for matching tasks to pupils' abilities. Some groups will need their task to be heavily structured with detailed stepwise instructions. Other groups/pupils will need minimal instructions. Having mixed ability groups can also work well with stronger pupils supporting weaker ones.

T4-3 S 2 Plan and Practise Together



Using Different Tasks Group Work Across the Curriculum

We are now going to plan our own different tasks group work activity. If the soil example does not work for you, have a look at the syllabus for the year group/s that you will teach and choose a topic that you can use the 'Jigsaw' technique with. Here are some more ideas:

JHS

You can use different tasks group work to cover material with a similar theme. For example when finding out about the scientific principles on which industries are based, different groups study the science in one of the following:

- Blacksmithing
- Gari making
- Soap making
- Salt making (evaporation)
- Kenkey production (fermentation)
- Vegetable crop production
- Biogas production

Decide what each group will do as their activity (eg. write a list, make a poster, make a quiz, etc.).

Reference: National Syllabus for Integrated Science (Junior High School), JHS 3, Section 5: Interactions of Matter, Unit 2, "Science Related Industries".

Upper Primary

You can use different tasks group work when revising topics. For example, when revising fruits and seeds, split the class into 5 groups and give each group a different one of the following to become experts at:

- Classify fruits as fleshy or dry and describe their uses.
- Describe the structure of seeds and state uses.
- Methods of fruit and seed dispersal.
- Advantages of fruit and seed dispersal.
- Conditions necessary for germination.

Decide what each group will do as their activity (eg. write a list, make a poster, make a quiz etc.).

Reference: National Syllabus for Integrated Science (Primary 4-6), Primary 6, Section 1: Diversity of Matter, Unit 1, "Fruits and Seeds".

Lower Primary

Prepare a range of simple tasks on measuring length, volume and mass for groups to do. Here are a few examples:

- One group measures a few items using hand span.
- Another group measures different objects using feet span.
- A third group measures some other objects using arm span.

Make sure the objects are suitable for the method of measuring.

Members of these groups come together for round two and demonstrate what they did. Together they work out why each object was measured in a particular way.

Reference: National Syllabus for Natural Science (Primary 1-3) Primary 1, Section 1: Diversity of Matter, Unit 2, "Measurement of Volume, Mass, Length and Time."

English

Give each group the task of writing a story about a different one of the following:

- people
- places
- animals
- home and everyday activities
- school activities
- occasions/events/parties/festivals

Members of these groups come together for round two and tell their story to the 'Jigsaw' group.

Give the 'Jigsaw' group the additional task of building up a list (with examples) of what makes a good story based on what they hear from the experts.

Reference: English Language Syllabus 2012, Primary 6, Section 1: Listening and Speaking, Unit 3, "Story telling".

Maths

Prepare a range of simple tasks on linear equations and inequalities for groups to do. Here are a few examples:

- One group writes mathematical sentences from given word problems involving linear equations in one variable.
- Another group writes word problems for given mathematical linear equations in one variable.
- A third group writes mathematical sentences from given word problems involving linear inequalities in one variable.
- A fourth group writes word problems for given mathematical linear inequalities in one variable.

Members of these groups come together for round two and demonstrate what they did.

Reference: National Syllabus for Mathematics (Junior High School), JHS 2 Unit 2.4, "Linear Equations and Inequalities".

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 pupils.

Make sure to include notes on the the following:

- How many groups you will have in round one of the 'Jigsaw' activity and what activities they will do.
- How many pupils will be in each group, taking into account their individual needs.
- How you will adjust your plan if some pupils do not turn up to the lesson.
- What will those groups that finish first do whilst other groups are still finishing their tasks?
- What pupils need to do before the next lesson (for example finish something off for homework if they did not finish it in class).
- What pupils 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 T4-3E5 Further Resources.):

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 use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your pupils, especially girls, 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 pupils during the week.

Facilitator Notes

Think about how to manage the scenario where some groups have an extra person in them. For example a Group 1 with one extra person could have members A1 A1 B1 C1 D1 (where A1 is the extra person in this group). What happens to the round two groups? How will the two people with the same role share the reporting back part of the task? Teachers should take into account Individual pupils' needs to decide on the best way to accommodate 'extra' group members. For example, is there a particular activity that is best suited to a shared role when one partner is visually impaired?

T4-3 S 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 pupils during the week.

T4-3 S 4 Reflect Together



Using Different Tasks Group Work Across the Curriculum

Now that you have done different tasks group work with your pupils, 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 pupils 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.

Facilitator Notes

Try to get a sense of how well prepared teachers are for the next stage of the activity. They may need to make some additional resources to support the expert groups in their task of reporting back. Will they allow the expert groups some time at the beginning of the next lesson to make sure they know what they are doing?

T4-3 E 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 pupils by the number of round 1 (expert) group,. 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		

* If you get a remainder here, distribute that number of pupils equally across the groups assigning the same card twice as often as needed - do this strategically taking in to account individual pupil 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

etc.

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

Facilitator Notes

To start this session:

- Please briefly read out the Learning Objectives.
- Check that everybody has read the overall introduction and ask whether there are any questions.

The activity

- Now skip the Introduction, going straight to the activity below.

Suggested time: 5 minutes

T4-4 i 1 Learning Objectives



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

- Understand the role of effective feedback to improve the learning of pupils.
- 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 pupils learn more effectively.

T4-4 i 2 Introduction



How your pupils 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;
- pupils and their groups to summarise and synthesise what they have learned (which helps them to develop their understanding further); and
- pupils 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 pupils 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 pupils 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	Section
Participatory Feedback	This concerns activities that encourage everyone in the class to participate actively when reporting back from group work.	T4-4M
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.	T4-4S
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.	T4-4E
Using Role Play	This is about asking your pupils 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 pupils 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
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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 pupils to report back in pairs. For example they share their work and peer review.

Using Posters to Share Ideas

Ask your pupils 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 pupils to take pictures of the posters to capture what has been shared if they can.
- Ask the pupils 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 pupils stories, designs, etc) and invite the principal,

other classes to view. Bear in mind that this could increase the time pupils 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 pupils 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 teacher colleagues to 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 pupils 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 pupils 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 pupils can be asked to 'park' their questions on a big sheet on the wall.



Figure 18. Reporting back from group work

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



Facilitator Notes

Outcome. At the end of this activity, teachers should have

- discussed at least some of the teaching strategies suggested above
- decided on an appropriate reporting back strategy to use
- had a go at trying out and experiencing this strategy
- discussed how the reporting back strategy used developed their understanding of the topic further

In small groups, first talk to your teacher 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 pupils 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



Facilitator Notes

It is now time for group work, to Plan and Practise Together.

Suggested time: 45 minutes

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

Facilitator Notes

There are three different sections that follow, each focusing on different aspects of Reporting Back From Group Work.

If you want to keep the planning simpler, you could keep the group of teachers together, and select one of the sections that all teachers can do.

However, if you would like to challenge your teachers a bit more, refer them to the above table, and let them choose which aspect to cover. Note that this will also make the reflection (at the start of the next session) more complicated.

As teachers start with the following sections, do remind them to not spend too much time on the Example, but to really focus on planning their own activities.

During the different task group work, you should circulate, and support the groups where needed.

T4-4 i 5 Prepare for Teach and Reflect



Facilitator Notes

After about 45 minutes (with about ten minutes left in the session), bring the teachers back together, and see whether anything needs to be discussed. Make sure that everybody has a concrete plan for teaching, and has recorded this in their activity plan.

Then close the session.

Suggested time: 10 minutes

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).

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Theme 4: Group Work

Teaching Strategy 4

Reporting Back From Group Work in English

T4-4 E 1 Example



How Ms Mensah Gets Her Pupils to Report Back From Group Work

Ms. Mensah gave her pupils 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 pupils 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.
- 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 eight groups of five) 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 pupils 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.

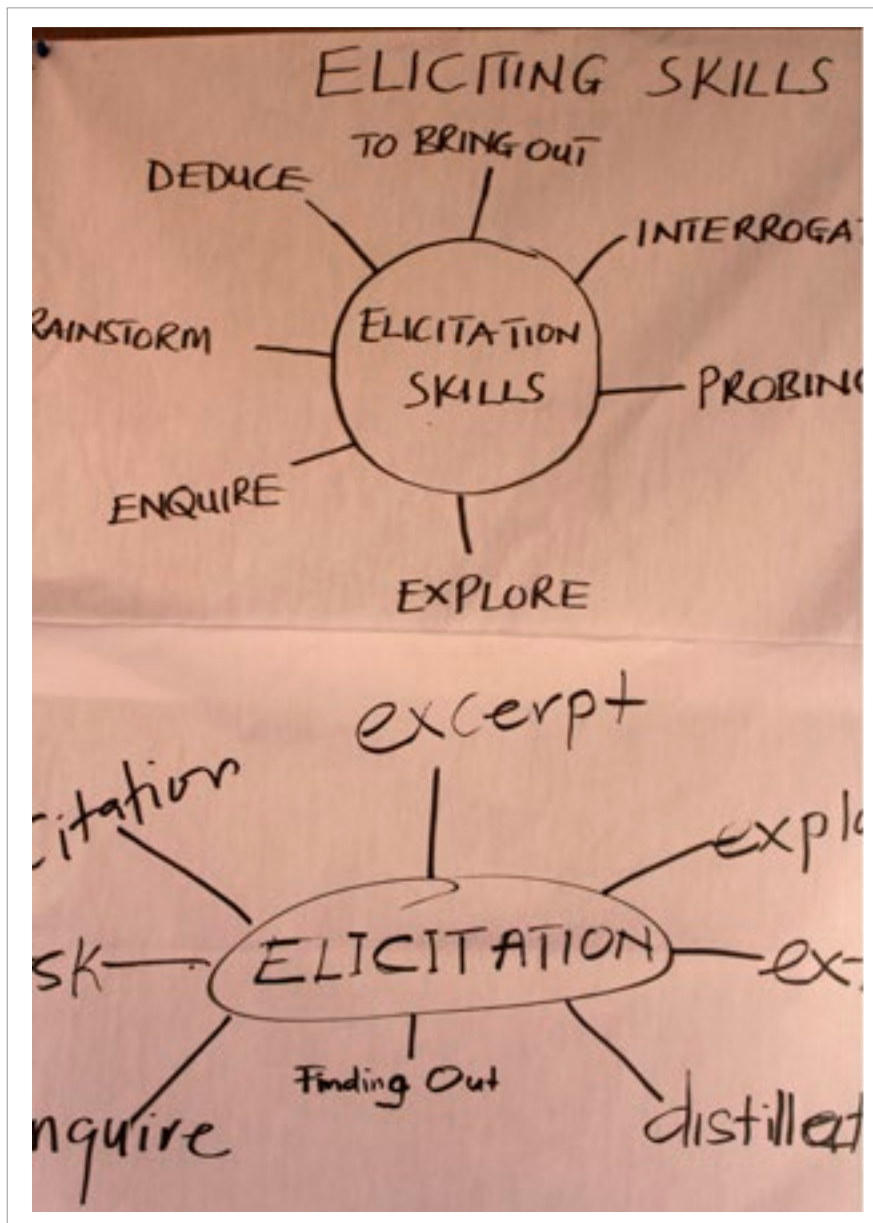


Figure 19. Posters ready for student teachers to vote on them

Teacher Discussion



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

Facilitator Notes

T4-4 E 2 Plan and Practise Together



Reporting Back From Group Work Across the Curriculum

We are now going to plan our 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.

Relations (JHS Maths Syllabus, JHS 1 Unit 1.8)

Plan a lesson on the above topic, 'Relations - relations between two sets in everyday life.' What relevant steps would you take to enable your pupils to vote for the group whose presentation is thought to be the most informative?

Sun and Earth (Natural Science Syllabus (P1-3), Section 2, Unit 1)

Plan a lesson to involve pupils to work in groups to report back to the class on their findings. Pupils in groups discover as much as they can about the sun and earth through brainstorming and any other resources available. They can report back through a presentation to the class.

Class Magazine Work (English Primary Syllabus (4-6), primary 6, Unit 7)

Plan your lesson to engage pupils in group work and to design the cover and write a short article for the class magazine. Ask groups to report back through exhibition and class votes on the most informative/ creative piece.

Plan Your Own 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 pupils, especially girls, 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 pupils during the week.

Facilitator Notes

Here are some more tips for teachers.

- It will be important for you to emphasise to teachers that voting for a piece of work should be done sensitively and not seen as evaluative. They should avoid words such as 'the best' rather use words such as, 'our favourite'; 'the most informative/ descriptive/ well designed/ creative etc.'
- Give clear criteria for the piece of work to be voted on so that there is transparency in why one piece of work 'won the vote' e.g. giving writing frameworks as in the example above.
- Encourage teachers to always say why they have voted for a piece of work i.e. they have to give their rationale. In turn they encourage their pupils to do likewise.
- Encourage teachers to give constructive feedback to pieces of work and so pupils will do likewise.
- Explain that voting can make groups work harder, more creatively and more collaboratively together in order to 'win the vote.'
- Combine art work/ designs and concepts to give more opportunities to different learners.
- Make the voting process fun but clear e.g. each group/ team comes to a consensus on which one they like (they cannot vote for themselves), they record their choice on a piece of paper without putting a name , put it into a box/ hat, the teacher counts the number of votes for each piece of work.

T4-4 E 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 pupils during the week.

T4-4 E 4 Reflect Together**Reporting Back From Group Work**

Did you achieve what you wanted to achieve in the lesson in terms of getting your pupils to report back? If yes, tell your peers what happened.

Did they (the pupils) achieve what you hoped they would achieve in their 'report back'? If yes, tell your peers what happened.

Facilitator Notes

Encourage all teachers to use/ allow 'deconstruction' of their lessons. Using the 'reporting back' phase is a good time to do this, e.g. in a class where they have tried group work, teachers can ask peers, who observe them, to report back using the following questions:

- How did I organise the group work? Why did I do it this way?
- How smoothly did the task run in the groups? What were the roles (for pupils and teacher)?
- How did the teacher wind down the task? How did I do the 'report back'? Why?



Theme 4: Group Work

Teaching Strategy 4

Reporting Back From Group Work in Mathematics

T4-4 M 1 Example



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

Ms Sabina has used pair and group work in her primary Mathematics class 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 pupils 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 pupils. Could 'Participatory Feedback' help? I devised two group activities to compare and contrast, and consolidate the learning of area and volume (Primary Mathematics, unit 6.12). I organised the class into 8 groups, so 4 groups would do the same activity.

I gave the pupils the following instructions:

- To report back on your group work to the whole class 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 know what has been said already.

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 (area or volume)? 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 three examples of area or volume in a real life situation. Be creative!
3. Show how to do the calculations.
4. Make 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 four 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.



Figure 20. Student teachers discuss with their tutor what they will focus on when feeding back to the whole class

Teacher 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?

Facilitator Notes

T4-4 M 2 Plan and Practise Together



Reporting Back From Group Work in Mathematics

'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 three more ideas that lend themselves for reporting back from group work using 'Participatory Feedback':

Decimal Fractions and Percentages

Ask groups to come up with 'Three things we know, Three things we do not know' about decimal fractions and percentages. To feed back to the whole class use 'Participatory Feedback'.

Graphical Representation of Data

Ask groups of pupils to make a poster of characteristics, examples and ideas for graphical representation of data. Tell them to prepare for reporting back using 'Participatory Feedback' as in the example.

Reference: JHS Mathematics Syllabus 2012, Unit 2.1, p. 30-31.

Subtraction of Numbers Less Than 1000

Ask mixed attainment groups to come up with their top three tips on what to look out for when doing subtraction for numbers less than 1000. Use 'Participatory Feedback' to decide as a whole class on the top five tips.

Reference: Primary Mathematics Syllabus 2012, Unit 2.11, p. 31.

Plan Your Own 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 pupils 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 use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your pupils, especially girls, 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 pupils during the week.

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

Facilitator Notes

T4-4 M 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 pupils during the week.

T4-4 M 4 Reflect Together



Improving Learning by Using Strategies to Report Back From Group Work

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?
- From these experiences, did you learn anything new about learning? If yes, what were they?

Facilitator Notes

T4-4 M 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).



Theme 4: Group Work

Teaching Strategy 4

Reporting Back on Group Work in Science

T4-4 S 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 pupils 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.

Teacher Salifu uses the 'Jigsaw' technique to teach his pupils 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 pupils read a handout given to them by the teacher 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 pupils in these groups are reading a handout that teacher 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 (find 2 nice images to compare from different parts of Ghana, maybe one that is good for growing crops and one that is not).

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 Teacher Salifu's Jigsaw Activity on the Nature of Soil



Figure 21. 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 teacher Salifu gives his expert groups of pupils 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 pupils really enjoy the activity. They engage critically with the material and the relationships between the pupils seem much improved. After the peer teaching session pupils 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.

Teacher 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?

Facilitator Notes

It is important to give the experts reporting back every opportunity to succeed. Giving them detailed guidance will hopefully help with this. The guidance should focus on helping them to report back clearly and succinctly. The experts that are demonstrating experimental procedures should take appropriate safety precautions.

T4-4 S 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 pupils 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?

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 pupils
- 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
- 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 use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your pupils, especially girls, 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 pupils during the week.

Facilitator Notes

Make sure that enough thought is given to the logistics of the activity at this stage. For example, how many sets of equipment will be needed by those doing experiments? This will depend on if the experts will just demonstrate or if they will allow the others in the 'Jigsaw' group to have a go too. Timing can be an issue with this type of activity so plans should include something for groups that finish early to do.



Figure 22. Reporting back to the 'Jigsaw' group

T4-4 S 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 pupils during the week.

T4-4 S 4 Reflect Together



Reporting Back on Group Work Across the Curriculum

Now that you have done round two of the 'Jigsaw' activity with your pupils, 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 pupils 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?
- Do your pupils 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.

Facilitator Notes

An additional step after experts have shared their knowledge with the 'Jigsaw' group is to ask the 'Jigsaw' group to do something with this new knowledge. For example they can look for similar features in the information that was reported back to help develop a definition etc. Make teachers aware of this way of extending the activity. Have a look at the English example in T4-3S; this has an additional step added for the 'Jigsaw' group.

T4-4 S 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

Facilitator Note

This is the last session in this Theme, and possibly the last session in the semester. It is your choice how you finish the Theme. You can do one of two things depending on the time you have available:

- If you have time, do an extra session, dedicated to reviewing Themes 3 and 4. Options for this will be discussed at the induction workshops.
- However, if you are running short of time, and you do not have a clear week for adding a session, then skip the activity in this introduction, going straight to planning. This will then give you time at the end of the session, to conduct a short reflection activity covering the whole semester.

T4-5 i 1 Learning Objectives



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

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

T4-5 i 2 Introduction



In much of the world, including Ghana, pupils 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:

- Pupils 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 pupils 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.	T4-5S
Greetings	This is about valuing and building on the multilingual skills of your pupils 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 pupils' home languages.	T4-5M

Language Grouping	Create groups where pupils who speak the same language are together when working on language-rich tasks e.g. storytelling.	T4-5E
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Greetings

Ask your multilingual pupils 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 pupils 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 pupils 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 pupils' home languages (for example, 'hello', 'sorry', 'thankyou', 'noun', 'energy', 'multiple', 'factor'). Seek out opportunities to invite your pupils 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 pupils 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



Facilitator Notes

Outcome. At the end of this activity, teachers should have

- gained an insight into how widespread multilingualism is amongst their colleagues;
- had a go at trying out and experiencing the teaching strategy 'codeswitching' discussed how the strategy of 'codeswitching can help in learning; and
- got more teaching ideas through discussion 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 pupils bring to the classroom?

Make notes of your ideas in your learning journal.

T4-5 i 4 Plan and Practise Together



Facilitator Notes

It is now time for group work, to Plan and Practise Together.

Suggested time: 45 minutes

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.

T4-5 i 5



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

Facilitator Notes

There are three different sections that follow, each focusing on different aspects of Group Work in the Multilingual Classroom.

If you want to keep the planning simpler, you could keep the group of teachers together, and select one of the sections that all teachers can do.

However, if you would like to challenge your teachers a bit more, then refer them to the above table, and let them choose which aspect to cover.

As teachers start with the following sections, do remind them to not spend too much time on the Example, but to really focus on planning their own activities.

During the different task group work, you should circulate, and support the groups where needed.

T4-5 i 6 Prepare for Teach and Reflect



Facilitator Notes

After about 45 minutes (with about ten minutes left in the session), bring the teachers back together, and see whether anything needs to be discussed. Make sure that everybody has a concrete plan for teaching, and has recorded this in their activity plan.

Then close the session.

Suggested time: 10 minutes

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 7 Activity: Reflection on the Theme of Group Work



Facilitator Notes

Because this is the last one in the series, make sure there is enough time. You could run this session for a little longer, if the timetable allows.

If you wish, similarly to the last semester, you could have a separate session dedicated to reviewing Themes 3 and 4.

Suggested time: 30 minutes (if possible)

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 teacher and pupils.		
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 pupils' 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 pupils 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 pupils will use their first language all the time if I use group work.		
I find that my male pupils dominate my group work activities in college and the females do not participate.		

T4-5 i 8 Further Reading



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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 9 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).



Theme 4: Group Work

Teaching Strategy 5

Group Work in the Multilingual English Classroom

T4-5 E 1 Example



How Mr. Danda Supported His Multilingual Class by Using Storytelling and Group Work

Mr. Danda in his English Primary 6 class introduces his lesson by telling a story, 'The Little Frog.' Although his native language is Bissa, he is aware that there are many languages spoken in his class. So he knows he has to prepare very carefully. This is what he does:

- Selects a story that is appropriate for the class (considering culture, age, gender, gestures, vocabulary, length of the story etc.).
- Puts pupils in groups based on the language they speak to encourage peer teaching or interpretation to others.
- Uses pictures and realia for learners to predict the story.
- Pre-teaches key words of the story by using realia, examples, gestures, demonstration, synonyms and antonyms and translation (if possible)
- Tells the story using pictures, realia, gestures, demonstration, and role play using some of his pupils.
- Pauses during the story to ask questions on that part of the story that has been told. To check pupils' listening and understanding of the the story.
- Asks learners to flash the appropriate picture to answer the questions asked.
- Asks predictive questions to encourage pupils to predict what will happen next in the story. He does this until the story comes to an end.
- Allows pupils to talk about how they feel about the story .
- Encourages them to re-tell or tell another story through role-play and dramatisation.

Teacher Discussion



Task 1. List the strategies that Mr.Danda used in his multilingual class. How did it help his pupils?

Strategy	Description	How does it support learning?

Task 2. What strategies would you use in a similar situation?

Facilitator Notes

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

Strategy	Description	How does it support learning?
Selecting a story	Mr Danda thinks about the following criteria: culture, age, gender, gestures, vocabulary and length of the story	Mr Danda uses several criteria to select the story to make sure it is relevant and appropriate for his class and context.
Organising language groups	Mr Danda plans and organises the class so his pupils sit with others using the same L1.	Mr Danda thinks that by using 'language groups' pupils could help each other (peer teaching) understand new ideas and language through using the same L1.

Using visuals and realia	Mr Danda prepares a variety of visuals and realia to help introduce the story and then uses them again during the story.	Mr Danda knows that by using visuals and realia he could engage his pupils in the story even more. For the whole class they can predict what the story might be about. He knows 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	Mr Danda prepares and plans beforehand by reading the story and identifying those words which were essential to the understanding of the story but new to his students. The words are also difficult to guess from the context.	Mr Danda knows that unless he pre-teaches these new words, his pupils will find it difficult to understand and enjoy the story. So he uses a variety of techniques (visuals, synonyms, translation, examples etc) to help his pupils understand the new words.
Pausing	As one of his techniques in storytelling, Mr Danda uses pauses.	The pauses add to the excitement of the story and are good for asking his pupils to predict what might happen next.
Telling the story	Mr Danda tells the story without using a book/ paper. He uses gestures and varies his voice.	Mr Danda knows it is important to learn the story himself first so he can really put the meaning across to his students. He does this by memorising the story and using a variety of techniques for his pupils to be able to enjoy and remember.

Giving time for 'personalisation'	Mr Danda knows it is very important to find out what his pupils feel and think about the story.	This allows his pupils to express themselves freely using their own language and ideas. He asks his pupils if there are similar stories in their own languages.
Giving time for re-telling/telling another story	In groups or in pairs Mr Danda asks his pupils to retell the story in their own words.	Mr Danda's pupils have the chance to tell the story in their own words and perhaps in their own language.

T4-5 E 2 Plan and Practise Together



Using Group Work in Multilingual Classrooms Across the Curriculum

You are now going to plan your own storytelling. 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 strategies to support learning in bilingual or multilingual contexts.

Interactions of Matter: Air Pollution (JHS Integrated Science Syllabus, JHS 1, Unit 2)

Think about how you would plan to help your pupils in the class to cater for those who cannot speak and/or write the language you are teaching in. Use some of the strategies you discovered in the example above.

Probability (JHS Maths Syllabus (1-3), JHS 2, Unit 14)

Plan a lesson for your class to look at the strategies to use with your pupils to meet the needs of your pupils in a multilingual or bilingual class. Consider some of the strategies in the example and how they could be used to make teaching, 'Probability,' accessible to all pupils.

Talking About Oneself/ Family and Friends (English Language Syllabus, Primary 1, Unit 6)

In planning your lesson, design activities that encourage your pupils to talk to each other, using the various strategies that have been discussed in teaching a multilingual or bilingual class.

Plan Your Own 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 pupils, especially girls, 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 pupils during the week.

Facilitator Notes

T4-5 E 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 pupils during the week.

T4-5 E 4 Reflect Together



Using Group Work in Bilingual and Multilingual Classrooms

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?

Facilitator Notes



Theme 4: Group Work

Teaching Strategy 5

Group Work in the Multilingual Mathematics Classroom

T4-5 M 1 Example



How Mrs Anyanful Did a Group Activity Using the Multilingual Skills of Her Pupils to Support Their Learning

Mrs Anyanful teaches mathematics at JHS level in a school in the Eastern Region. The pupils in the school 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 pupils in overcoming language issues in the learning of mathematics. Her pupils 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 (see T3-5 M). 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 pupils 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 geometrical vocabulary of rigid sets and enlargements and similarities (JHS 3.2 and 3.3, pp54-59). 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 a success: I heard my pupils 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 pupils were positive 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 'translanguage' secretly anymore but could do so openly.

Teacher 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 pupils.
- How do you think your pupils would respond when you asked them after using a multilingual word wall for three weeks how it helped them in their learning?

T4-5 M 2 Plan and Practise Together



Group Work in the Multilingual Maths Classroom

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

Algebraic Expressions (Maths)

Make a multilingual word wall for terminology used in algebraic expressions, using for example the words and expressions 'open statement', 'algebraic expression', 'domain'.

Reference: JHS Mathematics Syllabus 2012, Unit 1.9, p. 22-23.

Capacity and Mass (Maths)

Make a multilingual word wall for terminology used in word problems in estimating capacity and mass, using for example the words and expressions 'taller', 'capacity', 'length', 'difference'.

Reference: Primary Mathematics Syllabus 2012, Unit 1.9, p. 13-14.

Multiplication and Division (Maths)

Make a multilingual word wall for terminology used in multiplication and division, using for example the words and expressions 'quotient', 'remainder', 'estimate'.

Reference: Primary Mathematics Syllabus 2012, Unit 5.7, p. 91-93.

Plan Your Own 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 pupils. 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 use in your teaching in the coming week. Hopefully, you have also considered how to encourage all of your pupils, especially girls, 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 pupils during the week.

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

Facilitator Notes

Ask the teachers how they think their pupils would respond when asked how it helped them in their learning after using a multilingual word wall for three weeks.

T4-5 M 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 pupils during the week.

T4-5 M 4 Reflect Together



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 pupils? Were more engaged? Who worked with whom?
- Did pupils seeing words in different languages help communication? Cultural understanding?
- Is there a change in the social cohesion in your class? If yes, what are they?
- What was the effect on the learning of your pupils?

Make a note of your thoughts in your learning journal.

Facilitator Notes

Word walls are supposed to build up over time, and be part of ongoing practice. This might mean that the teachers will not have much to report on yet in reflection session after using word walls for just one week.

T4-5 M 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 23. Student teachers discuss the translations of terminology into Ghanaian languages [IMG_3734]

Teaching Strategy 5

Group Work in the Multilingual Science Classroom

T4-5 S 1 Example



Codeswitching in the Classroom

Teacher Annafo is multilingual - he can speak 5 different languages. Many of his pupils 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 pupils, 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 doing 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 pupils.

Now that Annafo has been using talk for learning techniques and encouraging his pupils 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 pupils about 'Codeswitching' and to elicit their ideas on how to proceed. He plans an activity that will allow for these issues to be discussed.

Teacher Annafo's Activity on Codeswitching

Teacher Annafo describes how he does the activity as follows:

The pupils 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 pupils 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 pupils' mistakes,
- to acknowledge and call on pupils,
- to help pupils understand something and
- when new scientific vocabulary is introduced.

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

Sometimes I forget the meaning of simple but unfamiliar words like 'computer'. When Teacher 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 to encourage a positive climate for 'Codeswitching' in the classroom. Here are some of their ideas:

- Have a rule that pupils should always ask for an explanation if they do not understand what a particular English word means.
- Teacher 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 pupils to practise using the new words we have learned.
- Plan for and allow activities to be explained (by other pupils) by 'Codeswitching' as it makes it easier to understand them.

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

Teacher 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 pupils' 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 that teachers (when using 'Codeswitching') can make sure that pupils continue to become proficient in English?

Facilitator Notes

An anticipated response to the question "What do you think of the title of this book on 'Codeswitching' for Chinese teachers?" might be - "It's interesting to notice that Chinese teachers also have difficulty/issues in the multilingual classroom." The idea behind this question and the bullet point that follows it is to allow participants the opportunity to talk about the issues around 'Codeswitching' which can be quite controversial. In the past it was frowned upon to use 'Codeswitching' in the classroom and it still is in many places.

Here are some ideas for making sure pupils become proficient in English:

- Ask after explaining ideas if there are any words that pupils do not understand, allow a few minutes for some local language use until the explanation becomes clear.
- Individuals should be responsible for writing words that they are unsure of in the back of their books or in a personal dictionary and they should try to remember them. That way their English language use can improve and the need for 'Codeswitching' may diminish. They could construct a vocabulary tree that is organised by topic as a way of keeping words in context and remembering them.
- Encourage word definitions in local languages to be 'collected' during group work. These could be displayed on the classroom wall.



Figure 24. Some of the languages written in Ghana

T4-5 S 2 Plan and Practise Together



Codeswitching in the Classroom Across the Curriculum

Plan to raise awareness of 'Codeswitching' with your pupils in the subject that you teach. For example, you can do a Talk for Learning activity with them and encourage them to use 'Codeswitching' to clarify their thinking. Talking points would be a good one for this.

Ask pupils to try to remember (or keep a note of) some examples of when they use 'Codeswitching' as you will ask them about this at the end of the activity.

Also consider the following when planning the 'Codeswitching' activity that you will do with your pupils next week:

- Choose an activity that will help with your pupils' 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 pupils' 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 planning details (resources needed etc.) that will help you to use 'Codeswitching' to improve your pupils' learning.

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

For younger pupils:

- Use 'Codeswitching' to help pupils to understand the meanings of new words.
- Allow them to physically experience scientific words as much as possible eg give them transparent and opaque objects and ask them what they can see through them.
- They can then make a personal word dictionary of new words (with their mother tongue word alongside) or display these words on a topic word wall.
- Very young pupils can add pictures to their words.

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 pupils during the week.

Facilitator Notes

Make teachers aware that there is ongoing research to help develop pedagogies that take full advantage of the learning gains that 'Codeswitching' can offer (things like when in a sentence it is best to codeswitch etc.).

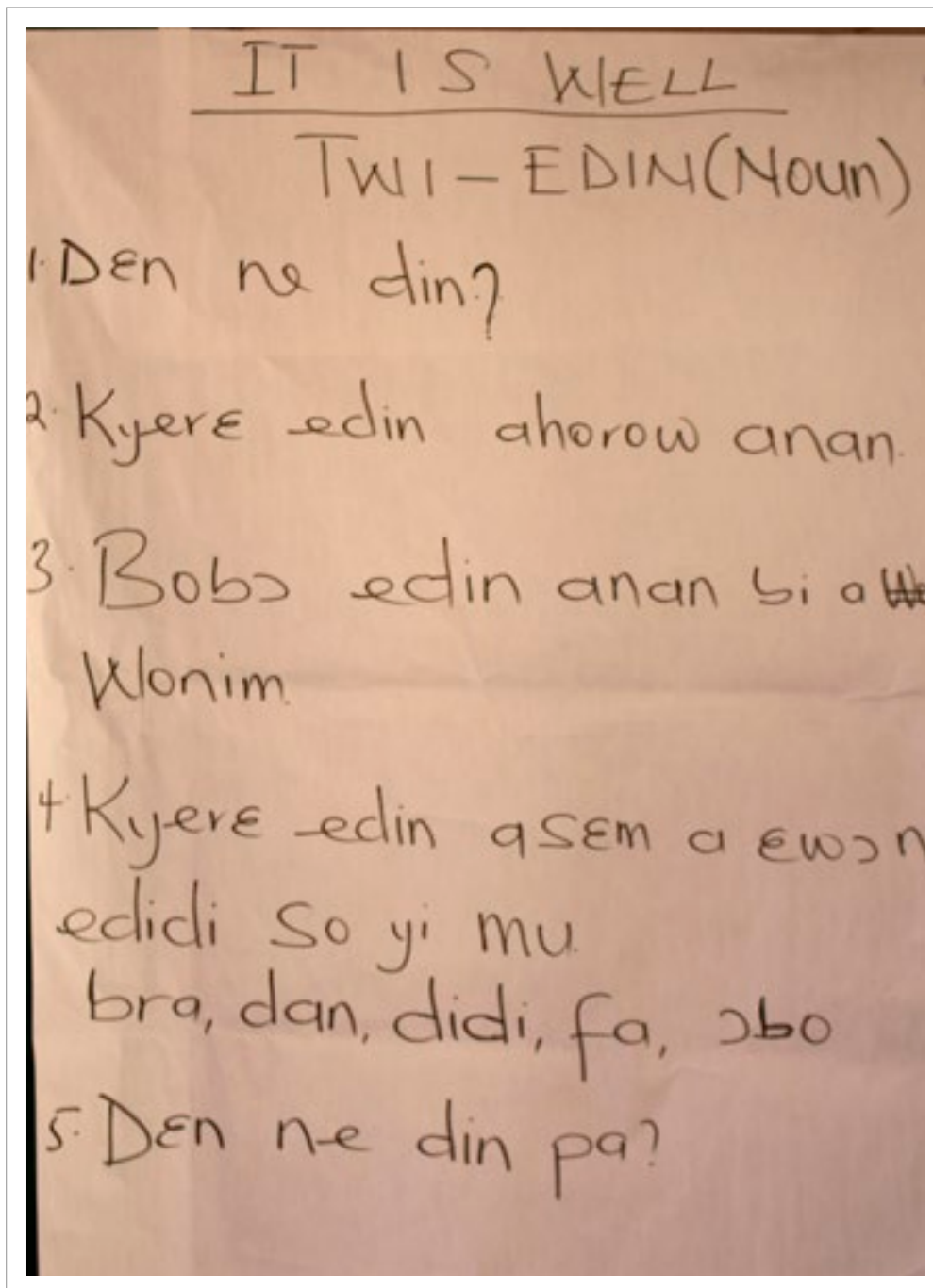


Figure 25. Classroom rules displayed in a local language

T4-5 S 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 pupils during the week.

T4-5 S 4 Reflect Together



Codeswitching in the Classroom Across the Curriculum

Now that you have done an activity to raise awareness of 'Codeswitching' with your pupils, 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 pupils to engage with the lesson material?
- Did the activity move your pupils' subject learning on? How do you know? What impact did 'Codeswitching' have on that?
- Did your pupils 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.

Facilitator Notes

By developing a 'Codeswitching' strategy, teachers can begin to make 'Codeswitching' a part of their pedagogy. This is a step towards taking full advantage of what it can do in the classroom.

T4-5 S 5 References



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

T4-5 S 6 Sources



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



Theme 4: Group Work

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Production Team

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Theme 4: Group Work

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):

Activity Plan

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