

## Using IT and telecoms in the emergency services

### Developing co-operative learning approaches in IT

#### Case studies or quotes

Learners and staff at Chichester College played a key role in creating these resources. The Curriculum Manager commented: "It's been fantastic to help develop these resources. It's given us time to think laterally, to experiment, to try things out and get feedback from the students. They have gained from the new experiences we have given them. More students are doing things outside the classroom and less time is spent sitting at computers." A teacher who works with a group that includes learners with learning difficulties commented during the activities: "This is great for this group – so good for team building."

#### Introduction

This varied series of activities has two main aims: to engage learners in studying an exciting and challenging topic, namely how IT and telecoms are used by the emergency services; and to provide an illustration of how co-operative learning can be implemented in IT teaching and learning.

The activities aim to build co-operative learning skills step-by-step, so are intended to be used in sequence. Each activity also focuses on different aspects of co-operative learning, offering learners a range of perspectives and experiences.

The IT content is suitable for both Level 2 and Level 3 learners, although learners at lower levels will enjoy the first three activities, especially if they are given extra time to explore the case study material.

Co-operative learning is a powerful approach that is related to high attainment. It brings many other benefits, including developing learners' social skills, breaking down barriers between learners and increasing motivation. Learners also improve their employability skills by learning to work in co-operative teams. Being able to work effectively with others is vital in the workplace.

You will find it useful to read these guidance notes in conjunction with the Co-operative learning area of the IT resources.

In this resource we use 'teaching and learning' and 'teacher' as generic terms to include:

- teaching, training and learning
- teachers, tutors, trainers, lecturers and instructors in the further education (FE) system.

## A brief outline of the activities

Activity title	Focus	Co-operative learning aspect
1 Which technologies?	First thoughts on the ICT used by the ambulance service.	Creating a graffiti wall to share existing knowledge.
2 Initial research	A case study of how the South Western Ambulance Service uses IT and telecoms to respond to 999 calls.	Team activity to produce a flow chart.
3 Resolve IT: Emergency scenarios	Applying knowledge of IT and telecoms used by the ambulance service to realistic scenarios.	Team activity – but with a strong focus on individual contributions.
4 Going deeper	Exploration of: <ul style="list-style-type: none"> <li>• databases</li> <li>• GIS and GPS</li> <li>• telecoms</li> <li>• resilience</li> <li>• the role of the IT team</li> <li>• at the South Western Ambulance Service.</li> </ul>	Jigsaw learning and team tasks using graphic organisers.
5 Team research projects	Research into how other organisations use IT and telecoms to save lives or solve problems (or any other topic relevant to your learners).	Team investigation, team presentations, peer review and group processing.

## Getting started

Learners need to be organised into co-operative learning teams prior to starting these activities. Ideally, these will be teams of three that stay together throughout the activities. The Co-operative learning area of the IT resources contains further guidance on establishing co-operative learning teams. Remember to make teams as diverse as possible and don't leave learners to organise themselves or they may simply stay in their friendship groups. The activities can be adapted to work with teams of two or four, if necessary.

It is vital that teams agree their own ground rules at the outset. They may also like to design a coat of arms to represent their team. The **Agreeing ground rules** and **Getting teams started: Coat of arms** activities in the Co-operative learning area of the IT resources contain further guidance for doing this. Ideally, each team should be allocated a suitable area as a team base, where they can display their ground rules and coat of arms.

You might encourage teams to call for 'team time' whenever necessary, when they adjourn to their team base to resolve problems and hold team discussions.

Be clear that working effectively as a team is as crucial as mastering the IT knowledge involved in the topic. You might consider allocating individual marks for team work as well as IT knowledge. Also, boosting individual scores if the whole team completes their tasks successfully emphasises that they sink or swim together, and are all accountable for their team's success.

In the introduction to the Co-operative learning area of the IT resource you will find a short multimedia presentation about how working co-operatively is important in the workplace. You might like to show this to your learners so they understand the value of learning to work in teams. The presentation is particularly relevant to these activities because it features comments on team work from staff in the ambulance service.

### **Planning learning in multiple environments**

These activities are aimed at developing co-operative learning skills. However, you do not need to be in a conventional classroom to do this. For example, in work-based learning you may find that a small group of IT apprentices can meet to work on the activities.

All activities can be adapted for individual study and some can be adapted for use by virtual teams.

### **Teaching and learning approaches**

The activities in this section provide opportunities for you to explore a range of active learning approaches including:

- co-operative learning – all aspects, from agreeing ground rules to reviewing team performance
- using a multimedia case study as a stimulus for active learning
- using graphic organisers
- using a board activity that encourages 'peer explaining' and develops thinking skills
- relating theory and practice
- using team research projects as a learning tool
- embedding speaking and listening skills, especially through team discussions..

## Embedding literacy, language and numeracy (LLN)

Every learning activity includes many different opportunities to develop LLN skills. Always try to find a naturally occurring opportunity to work on them, where learners can immediately appreciate the relevance and importance of the skills they are learning to use.

Your LLN specialist will be able to help you to:

- identify specific levels and curriculum references relevant to this activity
- create engaging learning activities to develop these skills.

However, you will be able to identify the general LLN skills required as you probably use the skills yourself every day.

This series of activities is particularly useful for developing learners' literacy skills. Speaking, listening, reading and writing are all required. There is a strong focus on listening to complex information, explaining it to others and holding team discussions. Learners should be able to develop the skills below.

### At Level 1

- Listen for and understand explanations, instructions and narratives on different topics in a range of contexts.
- Present information and ideas in a logical sequence and include detail and develop ideas where appropriate.
- Follow and contribute to discussions and respect the turn-taking rights of others during discussions.

### At Level 2

- Listen to, understand and follow lengthy or multi-step instructions and narratives on a range of topics and in a range of contexts.
- Present information and ideas in a logical sequence and provide further detail and development to clarify or confirm understanding.
- Make relevant contributions and help move discussions forward.

## Activity 1: Which technologies?

An easy-to-organise opener that allows learners to explore what they already know about how emergency services use technology.

This activity is fun, flexible and learner-centred. It should help your learners understand that individual contributions are visible and valued during co-operative learning, allaying the common fear that individual work will be appropriated by others or remain invisible. It will also help newly formed co-operative learning teams find their feet.

### Learning objectives

Learners should be able to:

- identify the various technologies used by the ambulance service
- begin to understand how co-operative learning differs from simply working in a group
- identify things they would like to know more about.

### Resources required

- Large sheets of paper, pencils or crayons.

### Starting points

Prior to this activity, learners will need some awareness of why working co-operatively is important and to have agreed team ground rules. You may like to show them the multimedia introduction to co-operative learning found in the Co-operative learning area of the IT resources.

This opening activity taps into prior knowledge or experience that they may have gained, but their level of knowledge does not matter. The opener itself provides the starting point – both for co-operative learning and the IT topic.

### Suggested approach

#### Stage 1: Introducing the task

Learners should already be in a co-operative learning team of three. Explain that their task is to produce a graffiti wall on the following topic: 'Information and communication technologies used by the ambulance service.'

Leave the topic quite open and allow learners to interpret what they think it means.

Invite one learner from each group to act as team facilitator (you can find out more about defining roles within the Co-operative learning area of the IT resources). This person is responsible for ensuring the team completes the task. Announce a time limit for the task of about 15 minutes.

## Stage 2: Individual work

Each team has a large sheet of paper and each learner takes an area of the sheet on which to draw pictures and write words, phrases or questions they associate with the topic. It does not have to be logical or structured. Avoid the temptation to intervene – watch and listen.

## Stage 3: Peer explaining

After about five minutes they stop drawing and each person takes a turn at explaining what they have drawn to the rest of the team, enabling them to begin to structure their thoughts on the topic. The team facilitator is responsible for ensuring everyone has an equal opportunity to speak.

## Stage 4: Plenary

Each team displays their graffiti wall. Teams may walk around and look at the other teams' work.

Avoid giving explanations at this stage, but you might like to stimulate a plenary discussion by asking questions about the words and pictures on the graffiti wall.

- Is there a difference between a radio and a mobile phone? Is there a difference between a text message and an email?
- Do emergency vehicles have aerials? If so, what do they do?
- Why do emergency service headquarters often have big masts nearby?
- Why do emergency control centres have computers?

Listen to your learners' answers. Do not worry if they know very little at this stage. Ask them to identify things they would particularly like to know more about.

## Stage five: Group processing

It is important that teams constantly review how well they are working together. You may find it useful to focus on a specific aspect such as: 'What did the rest of the team do when one of the team got stuck?'

This should provide an opportunity to highlight one of the key principles of co-operative learning, 'promotive interaction'. This occurs when team members encourage each other, coach each other and generally communicate in ways that create a positive environment. Negativity and undermining other team members goes against co-operation. Teams may like to revisit their ground rules to check they cover such issues. You can find out more about the principle of promotive interaction in the Co-operative learning area of the IT resources.

## **Assessment for learning**

By observing learners during this activity you will be able to see how well the teams are settling into working together. Their graffiti walls and answers to questions will help you assess their existing knowledge of the topic. This information enables you to plan your approach to the next activity and how much time to allow.

## Activity 2: Initial research

This activity starts with individual study of The South Western Ambulance Service – multimedia presentation, followed by team members co-creating a flow chart.

The use of a graphic organiser – the flow chart, provides a focus for a productive team discussion and allows teams to practise reaching a consensus.

The idea of team roles is also introduced, so learners become familiar with taking responsibility for how well their team performs.

### Learning objectives

Learners should be able to:

- identify the key steps involved in responding to a 999 call
- develop skills in reaching a team consensus
- develop skills in performing specific team roles
- develop systems thinking and analytical skills
- improve their listening skills and discussion skills
- reflect on team behaviour and propose changes to team ground rules.

### Resources required

- A means of showing **The South Western Ambulance Service – multimedia presentation**, ideally individual computers as well as via data projection (there are two versions of the presentation – a short and a longer version – decide which one will work best for your learners) or the PDF version of the presentation.
- **Sheet 2.1 – Sheet 4.6: Ambulance service storyboards** (included in a separate document).
- A diagram of a simple flow chart – available within the **Using graphic organisers activity** within the Co-operative learning.
- A means of teams creating their own flow charts, either manually or electronically. (You might like to use the digital or paper version of the Customer care activity **Who is the customer?** This can be found in the **Customer care** website.)

### Starting points

Prior to this activity learners will need to have agreed team ground rules and to have some awareness of what working co-operatively involves and why it is important. **Activity 1: Which technologies?** provides an ideal starting point for this activity.

If you are going to allocate the role of discussion leader to one person in each team, you might also like to undertake the **What makes a good discussion leader?** activity available within the Co-operative learning area of the IT resources.

## **Suggested approach**

### **Stage 1: Introducing the task and allocating roles**

Learners should already be in co-operative learning teams of three. Explain that they are going to look at a multimedia presentation about the South Western Ambulance Service. Their task is to take individual notes during the presentation, then as a team create a flow chart that describes the process of dealing with a 999 call. The flow chart should show who does what at each stage.

Explain that each team member will not only contribute to the flow chart, but will also have a specific team role. Useful team roles for this activity include those listed below.

- Discussion leader – manages the discussion during stage three.
- Recorder – actually draws the flow chart during stage three.
- Reporter – presents the flow chart during stage four.

### **Stage 2: Watching the multimedia presentation**

Learners study the multimedia presentation and take individual notes. There are two versions of the presentation – a short version and a longer version. Ideally, you will have decided in advance which version is most suitable. Learners may wish to watch the presentation several times. You might find it useful to show the presentation once to the whole group, then let them watch at their own pace on individual computers. Alternatively, the presentations are summarised on a printable PDF, available in the Downloads tab of the storyboard player.

### **Stage 3: Creating a flow chart**

Team members come together to compare notes and develop a team flow chart showing the process of a 999 call.

### **Assessment for learning**

Observe the teams closely during this stage. How effectively are they working together? Is one person dominating? Does the discussion leader understand their role? Do they have the skills to reach a consensus? Your observations will inform how you deal with stage five of the activity.

### **Stage 4: Team presentations**

Each team presents its flow chart and answers questions from other teams or the teacher.

### **Stage 5: Group processing**

It is important that teams constantly review how well they are working together. You may find it useful to guide their reflection with some questions.

- Did any member of the team dominate the activity?
- How did the rest of the team react to this?
- Do they feel their ground rules prevent this kind of problem? If not, how should they be changed?

This provides an opportunity to highlight one of the key principles of co-operative learning – the explicit learning of interpersonal and small group skills. Encourage learners to help each other develop these skills through constructive discussion of any issues. This may be a good point for teams to re-visit their ground rules and revise them in the light of experience.

### Activity 3: Resolve IT: Emergency scenarios

A fun and flexible activity that can be approached in a number of different ways according to available time and the needs of your learners.

This activity is not just about applying knowledge, but also inventiveness and lateral thinking. Can your learners convince their peers that they have assembled the people and assets necessary to deal with an emergency? Can they weave them into the story in a credible way?

The degree of competitiveness can be adjusted to suit learners, and challenging elements such as role play can be introduced. The level of the activity can be adjusted by choosing either the short or long set of 'question' cards (the latter set is most suitable for learners who have watched the longer version of the multimedia presentation) and by introducing the 'chance' cards for an added challenge.

In line with the principles of co-operative learning, the contribution of the individual is visible and valued – the team succeeds when every team member can resolve their allotted emergency.

#### Learning objectives

Learners should be able to:

- apply their knowledge of how an ambulance service uses IT and telecoms
- identify the people and assets needed to deal with a particular emergency and describe how they will be deployed
- appreciate the importance of each member of the team completing their allocated task
- improve their communication skills through peer explaining
- analyse the effectiveness of their team work.

#### Resources required

The following resources are included in separate documents.

- **Sheet 3.1 Resolve IT: Emergency scenarios – instructions.**
- **Sheet 3.2: Resolve IT: Emergency scenarios – learner handout** (one copy per team).
- **Resolve IT board A** – one per team. (Printed versions of the board are provided in the IT resource box, but you can print off additional copies of the board from the **Resolve IT: Emergency services** activity page on the IT website).
- A set of **people cards** – one set per team.
- A set of **assets cards** – one set per team.
- A set of **question cards** – one set per team.
- A set of **chance cards** – one set per team.
- A set of the **scenario sheets** – one set per team.
- Dice and three different coloured counters for each team.

Each set of cards should be printed on different coloured paper to avoid confusion.

### **Starting points**

It is essential that learners undertake **Activity 2: Initial research** before embarking on this activity so they have a basic understanding of how an ambulance service operates.

### **Suggested approach**

#### **Stage 1: Introducing the task and allocating roles**

Learners should already be in co-operative learning teams of three, although the activity works adequately with teams of two or four.

Explain that this activity allows them to demonstrate their understanding of how an ambulance service operates. They will each be responsible for assembling the assets and people to deal with a particular emergency scenario. The team is successful when all team members have resolved their emergencies.

In addition to resolving their scenario, each team member will have a team role. The Co-operative learning area of the IT resources suggests over 20 possible team roles, including the following.

- Resources manager – looks after all components needed for the activity, including holding the rules and reading them out as needed.
- Jargon buster – checks out the meaning of any terminology the team is unsure about.
- Team facilitator – makes sure everyone participates fully and mediates during any disagreements.

Use your knowledge of your learners when allocating roles. Rotate roles so everyone gets a chance to experience different roles. Avoid stereotyping learners and instead use team roles to provide new challenges.

#### **Stage 2: Allocating emergency scenarios**

Give each team member a different scenario. There are six to choose from. Scenarios 1,2 and 3 are slightly easier.

Learners take turns to read out their scenario to the rest of the team, then spend a few minutes making notes under the 'Things to think about' section. They can do this individually or work together, depending on the degree of competitiveness desired.

#### **Stage 3: Playing Resolve IT**

Teams play the board activity according to the rules. This is primarily a peer explaining activity, so encourage learners to listen carefully to each others' explanations rather than rushing to complete the task. Encourage team facilitators to sort out disagreements instead of turning immediately to the teacher.

## **Assessment for learning**

Carefully observe how learners carry out their team roles and identify any issues that might be addressed during group processing. Listen in when learners are peer explaining, as this will reveal the extent of their understanding and help you plan future learning.

## **Stage 4: Consolidating learning**

All teams come together and each team feeds back on at least one of the emergency scenarios, explaining how they think the emergency should be resolved.

## **Alternative approach: Role play**

Teams join forces to play out a particular scenario. Each learner takes a role, such as Call Taker, Emergency Medical Dispatcher, Paramedic and so on. Role play can provide a powerful learning experience, but requires careful planning. Further guidance and tips for using role play can be found in the **Using role play** CPD builder, on the **Supporting your CPD website**.

## **Stage 5: Group processing**

It is important that teams constantly review how well they are working together. You may find it useful to explore specific aspects using questions.

- How well did the team roles work out? Did people stick to their role or stray into others' roles? Was that a problem?
- Did the team roles help the team function better?
- Which role is hardest? Why?

This provides an opportunity to highlight the role interdependence that lies at the heart of co-operative learning. Encourage learners to respect team roles but not to become too rigid. Sometimes roles need to be re-negotiated during an activity.

General group processing questions might include the following.

- When did the team work well together?
- What helped this happen?
- Were there any times when team work broke down?
- Why was that?
- What can we do to improve our team work?

## Activity 4: Going deeper

This activity uses the jigsaw method to enable learners to deepen their learning, followed by a team task using graphic organisers. Approaches such as these help learners develop their personal learning and thinking skills and are an effective way of helping them master complex information. Once again, peer explaining also plays a key role. Learners start in groups, with each group studying a different topic.

- a. Use of databases within the ambulance service.
- b. Use of GIS and GPS within the ambulance service.
- c. Use of telecoms within the ambulance service.
- d. Resilience – how the ambulance service plans in advance how they will deal with problems.
- e. The role of the IT team within the ambulance service.

Each group member then moves on and shares their knowledge with others. Finally, they return to their regular co-operative learning teams for a task using graphic organisers.

This activity demonstrates the co-operative learning principle of positive interdependence ('we sink or swim together'). You can find out more about this principle within the Co-operative learning area of the IT resources.

The activity is flexible. You do not have to cover all five topics and the activity works with various-sized groups. It can even be adapted for 'virtual' discussions, with learners in different locations sharing their knowledge.

### Learning objectives

Learners should be able to:

- identify key points about a topic
- explain the topic to peers
- improve their listening skills and discussion skills
- apply group processing skills without the teacher facilitating.

### Resources required

A means of showing **The South Western Ambulance Service – multimedia presentation** for each topic on individual computers, or the PDF versions of the presentations: **Sheet 2.1 – 2.6 Ambulance service storyboards** (included in separate documents to these guidance notes.)

- You will need to view this material in advance to decide whether you want to cover all the topics.
- A set of pictures showing graphic organisers for each team (available within the Co-operative learning area of the IT resources).

- A way for teams to create their own graphic organisers, either manually or electronically.
- A set of role cards (optional) – available within the Co-operative learning area of the IT resources.

### Starting points

Previous activities (1, 2 and 3) familiarise learners with the work of the South Western Ambulance Service and build up their confidence to work co-operatively.

The **Using graphic organisers** activity within the Co-operative learning area of the IT resources forms a useful prior activity, especially for less confident learners.

### Suggested approach

#### Stage 1: Organising groups and allocating topics

If you are going to cover all five topics, learners need to be in groups of five. If you are covering four topics, they need to be in groups of four, and so on. If your total group of learners is not divisible by the number of topics, invite some learners to work in pairs until stage four.

Explain that each group will investigate a topic, then share their knowledge with everyone else. In other words, they will become the experts.

The topics are listed below.

- a. Use of databases within the ambulance service.
- b. Use of GIS and GPS within the ambulance service.
- c. Use of telecoms within the ambulance service.
- d. Resilience – how the ambulance service plans in advance how they will deal with problems.
- e. The role of the IT team within the ambulance service.

#### Stage 2: Researching the topic and agreeing key points

Working individually or in pairs, learners study the multimedia presentation on their allocated topic, noting down key points. Alternatively, they could use the summary PDF storyboards, available in the Downloads tab of the storyboard player.

Each group then meets to compare notes and agrees a set of bullet points on their topic. Everyone notes these down, as they will be used as a prompt sheet for the next stage.

You may like to give guidance on how many bullet points to write. Or you may set a time limit for the next stage and use this to guide the groups on how much material to prepare: “During the jigsaw stage you will have just three minutes to teach the others about your topic.”

### **Stage 3: Jigsaw**

Learners now form new groups, ensuring there is one 'expert' (or pair of experts) for each topic in the group.

The experts explain their topic to the group using their bullet points as a prompt sheet. Learners working as a pair can divide up the bullet points and do a 'double act'. Allow additional time at this stage for learners to question the experts and discuss each topic.

### **Stage 4: Team task using graphic organisers**

Learners now return to their regular co-operative learning teams. Give each team the pictures of graphic organisers. They will also need a means of producing completed graphic organisers. This can be done electronically or on large sheets of paper.

Set the task to suit your learners. You could choose either an open-ended, challenging task:

"Take each topic you learned about in the jigsaw. Put the information into a suitable graphic organiser. Feel free to devise your own graphic organisers as well as using the ones on the cards."

Or more defined, less challenging tasks:

"Use the T-column. List the different databases used by the ambulance service on the left. Say what they are used for on the right."

"Use the idea cake. Label each segment with a problem that the ambulance service has to deal with. You can have as many segments as you like."

"Use the sunshine wheel. Put 'The IT Team' in the middle. Label the spokes with the things the IT team does."

Whatever the task, now may be the right time to allow teams the freedom to decide how to organise their work and also allocate team roles, if they wish. Have the team role cards handy, in case they need them.

### **Assessment for learning**

Observe the teams at work. You will not only find out how much they have learned about the topics, you will also notice things about their team work that may help you guide them during group processing.

## **Stage 5: Group processing**

By now your learners should have a good grasp of what is involved in group processing and be ready to run their own group processing discussions, with minimal intervention from the teacher. You might like to introduce the use of the following group processing prompts, as these provide a clear focus to keep learners on track during their discussions.

Learners do not need to address all of the prompts, although number six should always be on the agenda.

### **Processing prompts**

1. Three things the team did well in working together...
2. Our team is really good at...
3. Words describing our team are...
4. Actions that helped the team were...
5. Next time we will be better at...
6. One change we need to make to our ground rules is ...

## Activity 5: Team research projects

If your learners have successfully completed Activities 1 to 4 in this Employer challenge, they will now be ready to move up a gear and take on a challenging team project.

Team projects will be determined by your learners' needs, the learning context and the syllabus you are following. These guidance notes focus mainly on the co-operative learning aspects of such a project.

In order to capitalise on your learners' knowledge of the ambulance service, you might consider projects that allow them to research how one of the following organisations uses IT and telecoms to save lives and/or solve problems:

- the maritime and coastguard agency (MCA)
- the lifeboat service (RNLI)
- a motoring rescue service
- your local police force
- mountain and cave rescue groups
- regional resilience and response teams.

The team projects will enable learners to develop their use of ICT to capture and present information. This might include use of audio and video, as well as presentation software.

It may also be a good time to introduce your learners to the **SuccessPlanner**, if you have not already done so. This tool supports the co-operative aspects of a project by allowing learners to plan and track both individual and team tasks. The **SuccessPlanner** is located within the Planning toolkit. This can be found on the **Effective teaching and learning** website.

### Learning objectives

Learners should be able to:

- improve their research skills
- improve their project management skills
- develop their understanding of co-operative learning
- identify behaviours that help and hinder team work
- improve their ability to listen to others, contribute to team discussions, give and receive feedback and present information.

Plus the objectives that relate to the IT content of the project.

### Resources required – all optional

- A set of role cards.
- Access to the **SuccessPlanner**.
- Access to the internet.

- Video and audio recording equipment.
- Presentation software and equipment.

### Starting points

Prior to tackling a team project, learners should be familiar with co-operative learning and conducting research as a team. Activities 1 to 4 aim to provide this grounding. However, there are other activities that your learners may have undertaken, both inside and outside the classroom that could provide a similar foundation. This preparation is vital. Learners with little team work experience, or with unhappy experiences of poorly organised group work are likely to lack the skills and confidence to tackle a team project successfully.

### Suggested approach

#### Stage 1: Involving learners in finding suitable projects

Involve the teams in the selection of projects. Encourage them to consider several possibilities, do some preliminary research, and then reach a consensus on which they want to pursue. Time spent on this ensures they have a realistic project that the whole team has bought into.

#### Stage 2: Planning

Use the **SuccessPlanner** to plan the project.

#### Stage 3: Task and role allocation

Team research projects work best when team members have two levels of responsibility.

- Task-based: dividing up the research and giving everyone a chunk that they are responsible for.
- Role-based: taking on a team role to help the team function effectively, for example, minute taker, time keeper or discussion leader.

Team members may have several team roles and these may change as the project progresses. The Co-operative learning area of the IT resources suggests over 20 possible team roles.

Consider setting up a system for enhancing individual scores if everyone in the team completes their work successfully. This helps learners see that they are responsible for the whole team's learning, not just their own.

#### Stage 4: During the research

Co-operative learning should mirror high achieving teams in the workplace. There should be a positive atmosphere, good communication flow, a clear sense of direction, energy and motivation, and no unnecessary stress or anxiety.

Encourage teams to:

- call for 'team time' when necessary so they can adjourn to team base to resolve problems and hold discussions
- use graphic organisers and other techniques to help create highly structured and focused team discussions
- support team effort through positive promotive interaction: coaching, encouraging, motivating and supporting each other
- feel accountable to each other and the teacher; they should not shy away from asking each other to account for themselves, and the teacher should be able to receive a clear account of what the team or individual has done and learned (you might even consider springing short tests on teams to check their understanding of their topic)
- as far as possible, take responsibility for all aspects of the team's work, only turning to the teacher when they have run out of ideas or face intractable problems.

### **Stage 5: Group processing**

It is important that teams constantly review how well they are working together. They will get better at group processing the more they use it and see the benefits. This does not mean wallowing in self-recrimination or psychological explanations. It is all about developing a professional approach to team work, where teams are prepared to reflect on what is helping or hindering them and use that information to move the team forward.

You might consider reinforcing this aspect of co-operative learning by rewarding good team citizenship.

### **Differentiation to meet individual needs**

Co-operative learning offers a particularly effective approach to differentiation, as it is built on the principle that the individual matters as much as the team. A properly implemented co-operative approach ensures that individual needs are never lost sight of. The team is there to help everyone achieve their potential. Team success grows out of individual achievement.

Co-operative learning teams should be as diverse as possible, opening up possibilities for supporting less confident learners and integrating learners with disabilities.

The activities in this resource have a measure of flexibility built in and they can cater for learners at different levels.