

## **Roles and responsibilities of the design development team**

### **Wheel of design and development: guidance notes**

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### **Section 1**

#### **Introduction**

This is a preparatory activity that asks learners to review and record the steps and terminology used in the design and development of a construction project. The resource uses a traditional model of contractual procedures. Learners should be aware that there are other design and contracting arrangements, for example 'design and build' contractors, and that some employers utilise multi-tasking professionals.

You will be using a range of teaching and learning approaches, but there is a particular focus on learners:

- making requests and asking questions
- improving and reflecting on discussion skills
- reflecting on their learning and skills.

Make the learners aware that they are developing their personal and learning skills as well as gaining new knowledge. This helps them to become more 'expert' learners.

#### **Learning objectives**

##### Vocational objectives

- Identify the steps and terminology used in the design and development process.

##### Literacy, language and numeracy (LLN) objectives

- SLd/L1.2 Respect the turn-taking rights of others during a discussion.
- SLd/L1.3 Use appropriate phrases for interruption.

- Rw/L2.1 Read and understand technical vocabulary.
- Ww/L2.1 Spell correctly words used most often in work, studies and daily life, including familiar technical words.

### **Learning outcomes**

When they have completed the activity learners should:

- be aware of the key stages in the design and development process
- be aware of the personal, learning and thinking skills they are using.

### **Learning outcomes for teachers**

After completing these activities teachers should be able to:

- understand the importance of embedding LLN into vocational learning
- facilitate active learning activities
- understand the importance of giving specific and timely feedback
- reflect on and evaluate the teaching and learning experiences in the activities
- encourage learners to talk about their learning experience and learning skills.

### **Resources required**

- Wheel of design and development blank template – paper and/or electronic version.
- Wheel of design and development cards.
- Interactive whiteboard, if available.

### **Starting points**

Learners will need discussion skills at Level 1. The activity aims to move learners on to discussion and listening skills at Level 2. Learners will also need information and communication technology (ICT) skills at Level 1 to be able to access the internet. The learners will be asked to read a document that they have found to pick out the main points which is also a Level 1 task. They will build to Levels 2 and 3 by synthesising and presenting information in their own words, both verbally and in writing.

## **Suggested approaches** (Indicative timing: 40 minutes)

### **Before you start the activity** (Indicative timing: 10 minutes)

Make learners aware of the ways in which a discussion can be made more productive. Encourage learners to decide on their own ground rules which might include some of the following.

- Use language that is appropriate to the situation and not offensive to others.
- Use appropriate phrases to let others know you want to speak.
- Respect the views of other members of the group.
- Let each person have a turn.
- Let each person speak without being interrupted.
- Listen actively.
- Differentiate between an objective statement and an emotional standpoint.
- Remember that using a counter argument is not a personal attack on an individual.

Ask your learners to focus particularly on allowing each person to have their turn, and allowing people to finish what they are saying before interrupting.

Give out learner **Sheet 1**.

### **Stage 1** (In groups) (Indicative timing: 25 minutes)

Provide each group with a set of definition and term cards (outer two circles of the wheel of design and development board) and a blank wheel template. Groups discuss which term corresponds to the appropriate definition. Once individual groups feel that they have achieved the correct matches, they should place them on the templates. You should review these with the full group; give feedback on any differences through debate and discussion.

Ask each group to:

- match definitions to key design terms through discussion and negotiation
- discuss their findings with the broader group.

### **Stage 2** (In groups or pairs) (Indicative timing: 15 minutes)

Groups now decide which term and definition pairs belong to which stage of the design process by placing them on their template (inner circle of the wheel of design and development). You should review these with the full group; give feedback on any differences through debate and discussion.

Ask learners to:

- determine which term and definition set belongs to which stage of the design and development process
- discuss their decisions with the broader group.

The activity can be reviewed using the electronic version of the design and development board if you have access to an interactive whiteboard.

We have provided a model answer on **Learner sheet 1**. You could give this to the learners at this point for their records. They could also use this to record their responses to the next activity by writing the role names related to each stage of design and development on the outside of the wheel.

### Stage 3

Ask learners to add new vocabulary to their glossary (see section 3).

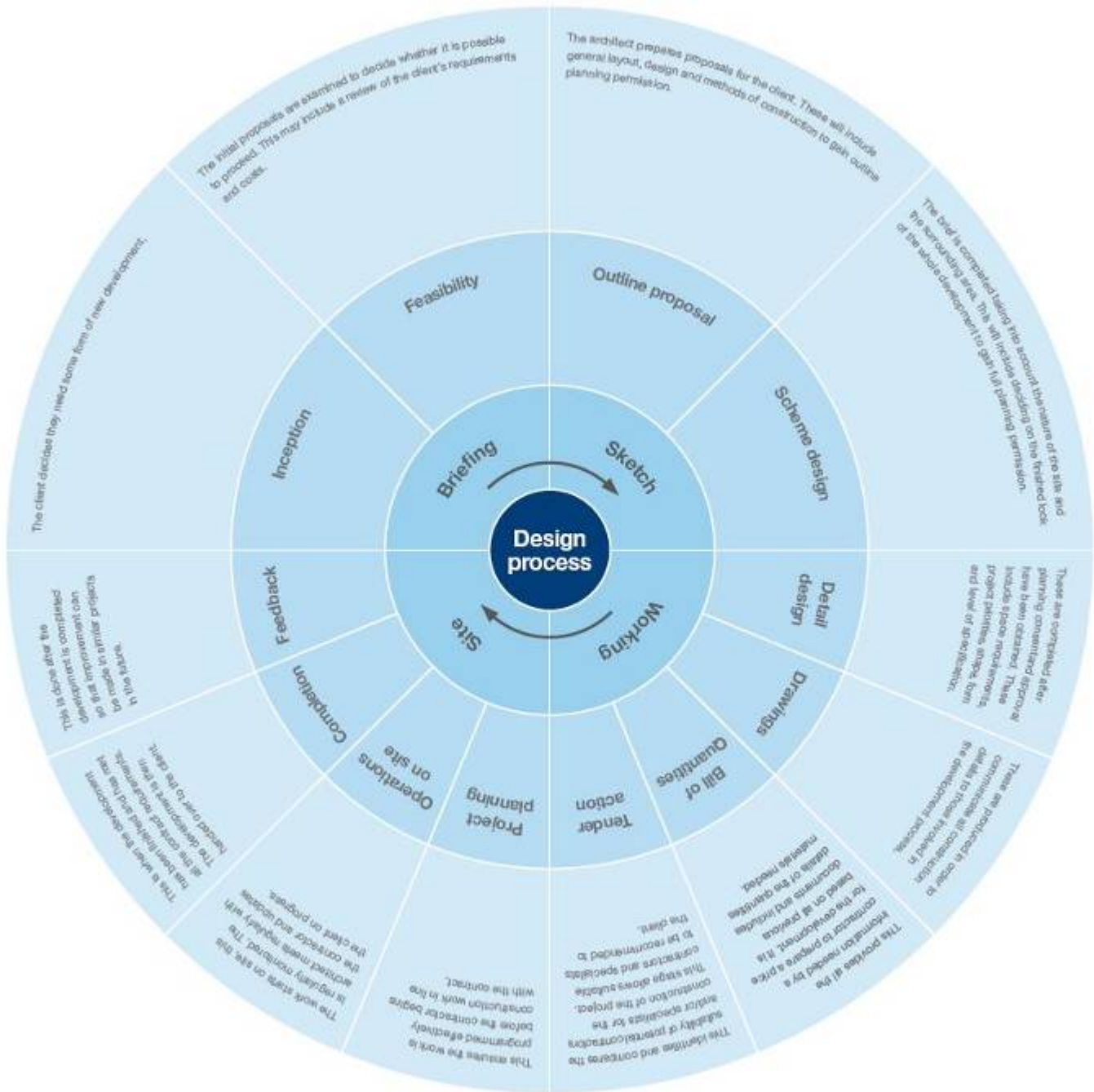
Ask learners to reflect on their LLN skills using the **Learner reflection sheet**.

### Extension activities

This activity could be extended to deepen or broaden your learners' understanding of the topic by asking them to undertake research into other methods of developing projects in CBE such as using design and build contractors.

## Learner Sheet 1

### Wheel of design and development model answer



## Section 2

### Reflect on teaching and learning Learner reflection sheet

#### How are my discussion and learning skills?

Name.....

Date.....

#### Activity 1: The wheel of design and development

	Skill	I do this well	I'm okay at this	I need to work on this
SLd/L1.2	Did I respect the turn-taking rights of other people during the discussion?			
SLd/L1.3	When I wanted to make a contribution to the discussion did I:			
	politely let people know I wanted to make a point?			
	use eye contact or gestures to show that I wanted to contribute?			
	allow people to finish what they were saying?			
Rw/L2.1 Ww/L2.1	Did I add new vocabulary to my glossary and spell the words correctly?			

What action can I take to improve my skills?

<b>Learning approaches</b> How good am I at:	I do this well	I'm okay at this	I need to work on this
working individually?			
contributing to group work?			
listening to other people?			
making helpful suggestions to other learners?			
accepting suggestions about how to improve your work?			
giving clear verbal explanations?			
asking clear questions?			
making notes that use key words?			

I learn best by:

I find it difficult to learn when:

I could improve my learning by:

Next time I will:

## Teacher reflection sheet

### How confident am I to embed LLN?

You may wish to read the information about the importance of LLN in Section 3 before completing this self assessment.

Was I able to help learners to:		I do this well	I'm okay at this	I need to work on this
	value the development of LLN by making them aware of the skills they were using at different stages of the activity?			
	complete the self assessment of their LLN skills after each activity?			
SLd/L1.2	respect the turn taking rights of other people during the discussion?			
	use eye contact or gestures to show that they wanted to contribute?			
	allow people to finish what they were saying?			
SLd/L1.3	use appropriate and/or polite phrases to interrupt others?			
SLd/L2.4	support opinions and arguments with evidence?			
	think through the reasons before talking about them?			
Rw/L2.1	add new vocabulary to their glossary and spell the			
Ww/L2.1	words correctly?			



What would help me to embed LLN into my teaching?	I do this well	I'm okay at this	I need to work on this
Show the learners that I value the work on LLN.			
Liaise with LLN or maths specialists.			
Work with a Subject Learning Coach (SLC).			
Work with other people who are teaching my subject to plan how to embed LLN.			
Have knowledge of the LLN core curriculum.			
Look at the National Research and Development Centre for Adult Literacy research which shows how other teachers have done it.			
Attend a staff development session on LLN.			
Participate in a Skills for Life project that is focusing on embedding.			

My key improvement targets for LLN are:

## How confident am I to use a range of active learning methods?

You may wish to read the information about active learning pedagogies in Section 3 before completing this self assessment.

<b>Teaching and learning approaches or activities</b> How good am I at:	I do this well	I'm okay at this	I need to work on this
making discussions more effective?			
establishing ground rules for discussions or group work?			
using peer review and feedback?			
using technology?			
encouraging learners to reflect on the development of their skills?			

My key improvement targets to improve my use of active learning methods are:

## Section 3

### **Guidance on teaching and learning approaches Literacy, language and numeracy (LLN)**

Recent research has found that programmes that embed LLN lead to a 16 per cent improvement in retention and achievement of vocational qualifications (Helen Casey *et al*, 2006).

In this activity, learners will have the opportunity to develop their speaking and listening skills. Tell learners about the skill(s) to be developed in each activity and give specific guidance on how to improve. The notes on each activity help you to do this. Ask learners to self-assess their performance using the Learner reflection sheet. They can also set their own targets for improvement. Focus on developing one or two skills at a time and review these on a regular basis. Your LLN specialist will also be able to advise you on other strategies and approaches.

Always try to find naturally occurring opportunities to work on LLN, where learners can immediately appreciate the relevance and importance of the skills they are learning to use.

As part of your continuing professional development (CPD) you can evaluate your own confidence to embed LLN into your teaching. Use the Teacher reflection sheet to do this and create an action plan for improvement. This could be done with your SLC or with the help of your LLN specialist.

### **Glossary**

The glossary is a feature of all the materials developed for Construction and built environment (CBE) in this phase. We have included a glossary that you can adapt. A range of technical terminology is used both for the design and development of a construction project and for the personnel involved. You can work with learners to develop personalised glossaries. Value the glossary by reviewing it on a regular basis. You may also want to refer learners to the following websites to help them in developing their glossaries:

<http://www.esd.rgs.org/glossarypopup.html>

<http://www.greenconstruction.co.uk/glossary/default.asp>

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

In these activities learners can use their experience from visits to construction sites and their own general knowledge. You may want to encourage them to undertake internet research in preparation for, or as an extension of, these activities.

A visit to a construction project, or architect's office, or guest speaker from a one of the professionals identified in these activities would make the learning experience more meaningful.

## Co-operative learning

Most of the activities use co-operative learning. Learners work in pairs and groups. The teacher acts as the facilitator.

By allowing learners to explore information and to seek for meaning, a deeper and more lasting learning takes place. Co-operative learning has been found to improve information acquisition, higher-level thinking skills, interpersonal and communication skills.

The co-operative learning techniques used in this series of activities are:

- agreeing ground rules
- team discussion
- explanations by teams
- asking and answering questions.

Think carefully about pairing and grouping learners. For example, place those with reading difficulties with those who are more proficient.

## Experiential learning

Some of the learner activities in this resource are experiential. Learners are engaged in work-related experiences that allow them to make discoveries and to experiment. They can construct meaning and develop their understanding. Experiential learning leads to affective (feeling) as well as cognitive (thinking) learning. It can be a powerful approach for developing empathy and changing attitudes.

## Multi-sensory learning

The learner activities in these resources use multi-sensory learning. By designing a learning experience where learners use more than one of their senses, we make it richer and more motivating. The learner is more likely to remember after a multi-sensory experience

Learners are engaged by using interactive resources and other media including:

- mini whiteboards
- card sorts
- coloured pens
- video.

## Reflect on the teaching and learning approaches used in this activity

You can use the Teacher reflection sheet to reflect on the teaching skills you have used in this activity. This can contribute to the development of your skills within the framework of the new overarching professional standards for teachers in the lifelong learning sector.

The new professional standards can be downloaded from the Lifelong Learning (LLUK) website, [www.lifelonglearninguk.org/standards/new\\_prof\\_standards.html](http://www.lifelonglearninguk.org/standards/new_prof_standards.html)

The Institute for Learning website, [www.ifl.ac.uk](http://www.ifl.ac.uk), can provide:

- a description of the CPD process
- a place for teachers to keep a record of their activities and achievements.

The joint Training and Development Agency for Schools/Lifelong Learning UK website supporting the workforce delivering diplomas, [www.teach14-19.org](http://www.teach14-19.org) can provide an online interactive training needs analysis for teachers of Diplomas.

You could use the Teacher reflection sheet when planning, or after using the activities in these resources. This enables you to identify clearly areas in which you may need development and, using the instruments outlined above, plan and record the development of these skills.

If you have adapted these resources and used different approaches you can edit the Teacher reflection sheet accordingly. You should undertake this reflection and development with your SLC or another colleague and encourage your learners to give you feedback on the use of the approaches and the development of your skills.

## **Bibliography**

Casey, Helen, et al (2006) *“You wouldn’t expect a maths teacher to teach plastering...” Embedding literacy, language and numeracy in post-16 vocational programmes – the impact on learning and achievement*. NRDC, London.