Tutor guidance

NCFE CACHE Level 4 Certificate in Neuroscience in Early Years
QN:603/5217/6

Contents

Summary of changes

This section summarises the changes to this Tutor Guidance

Version	Publication Date	Summary of amendments
v1.1	September 2020	Addition of supportive further reading hyperlink within Unit 01 and Unit 02.
V1.2	June 2022	Further information added to the, how the qualification is assessed section to confirm that unless otherwise stated in this specification, all learners taking this qualification must be assessed in English and all assessment evidence presented for external quality assurance must be in English. Information added to the entry guidance section to advise that registration is at the discretion of the centre, in accordance with equality legislation and should be made on the Portal. Information added to the support handbook section about how to access support handbooks.

Section 1

General introduction

Introduction

This Tutor Guidance contains Tutor hints, tips and teaching aids, including many links to useful websites, which were all accessible at the time of publication.

These tools will assist you with the planning and delivery of the qualification.

To ensure that you are using the most up-to-date version of this Tutor Guidance, please check the version number and date in the page footer against that of the Tutor Guidance document on QualHub.

We have provided this Tutor Guidance in Microsoft Word format to enable you to use the content more flexibly within your own course materials.

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- the resources and materials used in the delivery of this qualification must be age-appropriate and due consideration should be given to the wellbeing and safeguarding of learners in line with your institute's safeguarding policy when developing or selecting delivery materials.

Qualification introduction and purpose

This qualification is designed for practitioners who wish to improve their knowledge of early brain development. It will support learners within the early years sector to develop knowledge and skills to support advancement within the sector. Learners may also progress to further study.

Rules of combination

To be awarded this qualification, learners are required to successfully achieve four mandatory units.

Progression

Learners who achieve this qualification could progress to:

- Level 3 Diploma in Childcare and Education (Early Years Educator)
- Level 3 Diploma for the Early Years Workforce (Early Years Educator)
- Technical Level 3 Diploma in Early Years Education and Care (Early Years Educator)
- Level 4 Certificate for the Early Years Advanced Practitioner
- Level 5 Diploma for the Early Years Senior Practitioner.

Entry guidance

This qualification is designed for learners who wish to improve their knowledge of early brain development as informed by advancements in neuroscience.

It may also be useful to learners studying qualifications in the following sectors:

- early years education
- childcare
- teaching and learning
- health and social care.

Registration is at the discretion of the centre, in accordance with equality legislation, and should be made on the Portal. However, learners should be aged 18 or above to undertake this qualification.

Centres are responsible for ensuring that this qualification is appropriate for the age and ability of learners. They need to make sure that learners can fulfil the requirements of the learning outcomes and comply with the relevant literacy, numeracy and health and safety aspects of this qualification.

Learners registered on this qualification should not undertake another qualification at the same level with the same or a similar title, as duplication of learning may affect funding eligibility.

Placement hours

Some criteria will need to be achieved in a real work environment. Learners must be in a position to meet the skills based criteria for this qualification.

Units achievement log

	Unit number	Regulated unit number	Unit title	Level	GLH	Notes
☆	Unit 01	R/617/8539	Understand neuroscience as part of effective early years practice	4	40	
☆	Unit 02	J/617/8540	Understand adverse childhood experiences (ACEs) and their impact on children's stress response system	4	30	
☆	Unit 03	L/617/8541	Contemporary thinking and research from the neurosciences about child development from birth to seven years	4	40	
	Unit 04	R/617/8542	Implementing neuroscience-informed change through practitioner-led enquiry	4	60	The learning outcomes for this unit require the learner to be on a work placement or in a RWE in an early years setting.

Section 2

Tutor hints and tips

Unit 01 Understand neuroscience as part of effective early years practice (R/617/8539)

Unit number	R/617/8539		**Unit level**	4
Unit hours	Guided learning:	40	Non-guided learning:	5
Unit aim	The aim of this unit is to explore an in-depth understanding of neuroscience in early years.			

Tutor hints, tips and teaching aids

This unit considers:

- neuroscience of early brain development
- neurons and their main functions
- synaptogenesis
- the social brain.

Session 1–3

Begin this unit with an overview of the content of the learning that will be explored. This may be best achieved by considering the learning outcomes:

LO1: Understand the neuroscience of early brain development
LO2: Understand neurons and their main functions
LO3: Understand synaptogenesis
LO4: Understand how the social brain develops

Once learners have had a chance to look through the content of the unit as determined by the learning outcomes, begin with a group discussion around LO1: Understand the neuroscience of early brain development.

Considering the learning required for assessment criteria 1.1:

1.1 Define neuroscience

It will be useful here to open up discussions around the nervous system and how the brain functions. There is a useful slideshow accessable here: kidshealth.org/en/parents/brain-nervous-system.html

Learners should be familiar with the function of the brain in relation to:

- neuron activity
- synaptogenesis
- myleination
- cerebrum
- the limbic system
- thalamus
- hypothalamus

- amygdala.

Learners should be confident in the definition of neuroscience and able to outline the function of the areas identified above. At this level, learners can be asked to research each aspect and prepare for a peer presentation or produce a labelled poster/display to evidence their knowledge and understanding. Learners should be able to consider each aspect separately as well as consider the holistic interdependency of each aspect for efficient brain functioning. Flashcards and glossaries may also prove useful. There is a list of websites included within this Tutor Guidance and these can also add perspective to what could be a new subject area for learners. It is important to spend time on this criteria as it underpins the rest of the unit.

1.2 Explain how the baby's brain develops and grows during pregnancy

The NHS website has some useful documents and images to help learners appreciate what is happening in baby's development week by week: www.nhs.uk/start4life/pregnancy/week-by-week/2nd-trimester/week-13/#anchor-tabs

If you have access to our PregnancyVue App, this would be a useful time to use the headset. Other programmes are useful too:

- www.nhs.uk/conditions/pregnancy-and-baby/pregnancy-week-by-week/
- www.youtube.com/watch?v=WH9ZJu4wRUE

At this level, learners can begin to think analytically in terms of factors influencing healthy brain development and explore health promotion: what do we know about how to look after our brain in terms of lifestyle choices, food and nutrition and cognitive challenge/creativity? This will be a useful and meaningful discussion and learners could present their findings if approached through group activities.

1.3 Explain the process of early brain development from birth to seven years

The work covered so far can be summarised and consolidated through presentations and annotated poster work. It will be useful here to consider research around the significance of the 1001 days. Information surrounding the 1001 days can be found here:

- www.england.nhs.uk/blog/1000-days-to-make-a-difference/
- www.nspcc.org.uk/what-we-do/news-opinion/1001-critical-days-manifesto-to-help-prevent-child-abuse/

Learners can be asked to find out more and contribute to a group discussion. Summarise LO1 by referring back to the assessment criteria.

Session 4–5

These next sessions will consider LO2: Understand neurons and their main functions.

2.1 Describe the functions of a neuron
2.2 Identify the three main parts of a neuron
2.3 Analyse the process of myelination
2.4 Discuss the importance of myelination as part of healthy brain development from birth to seven years.

Teaching and learning to meet the requirements of the assessment criteria may include:

- the three main parts of a neuron and the function of a neuron as well as considering the process of myelination – this can be introduced by referring back to knowledge from the previous sessions to consider what a neuron is and the role it plays in the brain.

Please click the link for an image of a neuron:

www.123rf.com/photo_48129376_stock-vector-labeled-diagram-of-the-neuron-nerve-cell-that-is-the-main-part-of-the-nervous-system-.html

Ensure that when learners are exploring this that they are able to identify the three main parts of the neuron and can discuss the function of the neuron. Use a diagram such as the above with labelled flashcards for display and also create definition cards representing the three main parts, **dendrites, cell body and axon**, with a description of their role/function.

Introduce learners to the process of myelination by discussing the importance of myelination as part of healthy brain development from birth to seven years.

Session 6–8

Introduce LO3: Understand synaptogenesis.

There are four assessment criteria included as part of this learning outcome:

3.1 Define synaptogenesis
3.2 Explain the process of synaptogenesis
3.3 Identify the factors that influence this process
3.4 Describe pruning within sensitive periods of brain development

Begin by introducing synaptogenesis which is the creation of new synaptic connections. The following resources may be useful:

- www.youtube.com/watch?v=1fnm1vGGRYI
- www.youtube.com/watch?v=0S0jKbh6R1I
- www.youtube.com/watch?v=WhowH0kb7n0
- www.healthline.com/health/synaptic-pruning#future-research

Follow this with group discussions around the role of the early years practitioner in relation to activites and experiences to support the healthy development of young children.

‘During infancy, the brain experiences a large amount of growth. There is an explosion of synapse formation between neurons during early brain development. This is called synaptogenesis.

[…]

Once the brain forms a synapse, it can either be strengthened or weakened. This depends on how often the synapse is used. In other words, the process follows the “use it or lose it” principle: synapses that are more active are strengthened, and synapses that are less active are weakened and ultimately pruned. The process of removing the irrelevant synapses during this time is referred to as synaptic pruning.

Early synaptic pruning is mostly influenced by our genes. Later on, it's based on our experiences. In other words, whether or not a synapse is pruned is influenced by the experiences a developing child has with the world around them. Constant stimulation causes synapses to grow and become permanent. But if a child receives little stimulation, the brain will keep fewer of those connections.' (Healthline Media, 2020)

Summarise this learning outcome by asking learners to create an annotated flowchart diagram of synapotogenesis.

Session 9–10

In these sessions, introduce LO4: Understand how the social brain develops.

4.1 Explain how the mirror neuron system supports the development of the social brain
4.2 Explain the significance of the mirroring process in human relationships
4.3 Explain the significance of intersubjectivity in nurturing emotional and social wellbeing

Consider the mirror neuron system:

'**Mirror neuron system** is a group of specialised **neurons** that "**mirrors**" the actions and behaviour of others. The involvement of **mirror neuron system** (MNS) is implicated in neurocognitive functions:

- social cognition
- theory of mind
- empathy
- language.' (Indian Journal of Psychiatry, NCBI, PubMed, 2007)

Learners can work in small groups or pairs to research each of the neurocognitive functions listed above in preparation for a presentation. The presentation must include examples and a summative factsheet to support learners with their understanding.

Finish this unit with a discussion, introducing 'intersubjectivity' (social understanding). This video may also help; whilst it focuses on empathy, it does lend itself to the role of mirror neurons: www.brainfacts.org/brain-anatomy-and-function/anatomy/2014/empathy-and-the-brain

Resources and further reading

The following websites will be useful to share with learners as part of their studies and also provide opportunity to find out more. If using any of the links as part of lesson planning, Tutors are advised to check that the content is still available and how to introduce and build from the content.

- www.nhs.uk/start4life/pregnancy/week-by-week/2nd-trimester/week-13/#anchor-tabs
- www.nhs.uk/conditions/pregnancy-and-baby/pregnancy-week-by-week/
- www.youtube.com/watch?v=WH9ZJu4wRUE
- www.england.nhs.uk/blog/1000-days-to-make-a-difference/
- www.nspcc.org.uk/what-we-do/news-opinion/1001-critical-days-manifesto-to-help-prevent-child-abuse/
- www.123rf.com/photo_48129376_stock-vector-labeled-diagram-of-the-neuron-nerve-cell-that-is-the-main-part-of-the-nervous-system-.html
- www.brainfacts.org/brain-anatomy-and-function/anatomy/2014/empathy-and-the-brain
- www.oxfordbrainstory.org

Assessment tasks

These non-mandatory assessment tasks have been developed to support the assessment criteria for Unit 01. They have been divided into a series of tasks.

Task 1
(AC 1.1, 3.1–3.3)

Produce a set of fact cards to define:

- neuroscience
- synaptogenesis.

Explain the process of the synaptogenesis and the factors that influence this.

Task 2
(AC 1.2–1.3, 3.4)

Prepare a presentation for your peers to show your understanding of the following criteria:

- explain how the baby's brain develops and grows during pregnancy and from birth to seven years of age
- describe pruning within sensitive periods of brain development.

Task 3
(AC 2.1–2.4)

Produce an annotated poster to:

- identify the three main parts of a neuron
- describe the function of a neuron.

Produce a factsheet to support the poster to include:

- an analysis of the process of myelination
- discussion around the importance of myelination as part of healthy brain development from birth to seven years of age.

Task 4
(AC 4.1–4.3)

Use an example to:

- explain how the mirror neuron system supports the development of the social brain
- explain the significance of intersubjectivity in nurturing emotional and social wellbeing.

Unit 02 Understand adverse childhood experiences (ACEs) and their impact on children's stress response system (J/617/8540)

Unit number	J/617/8540		**Unit level**	4
Unit hours	Guided learning:	30	Non-guided learning:	10
Unit aim	The aim of this unit is to understand the impact of adverse childhood experiences (ACEs) on the stress response system of children and the nurturing role of the adult in supporting self-regulation through coregulation.			

Session 1–4

Begin this unit by discussing the learning outcomes and associated assessment criteria:

LO1: Understand the limbic system
LO2: Understand self-regulation in children from birth to seven years
LO3: Understand factors impacting self-regulation for children from birth to seven years
LO4: Understand co-regulation and its role in the development of self-regulation
LO5: Understand the stress response system and the types of stresses which impact on children from birth to seven years
LO6: Understand adverse childhood experiences and how they influence long-term wellbeing and development
LO7: Understand behaviour and approaches to support children from birth to seven years.

Following the discussion around the unit, return the focus to LO1: Understand the limbic system.

Emotion involves the entire nervous system, however, there are two parts of the nervous system that are especially significant: The limbic system and the autonomic nervous system.

The limbic system

'The limbic system is a complex set of structures that lies on both sides of the thalamus, just under the cerebrum. It includes the hypothalamus, the hippocampus, the amygdala, and several other nearby areas. It appears to be primarily responsible for our emotional life, and has a lot to do with the formation of memories.' (Dr. C. George Boeree, 2007)

If you click on the link below, you will see an image of the brain cut in half, but with the brain stem intact. The part of the limbic system shown is that which is along the left side of the thalamus (hippocampus and amygdala) and just under the front of the thalamus (hypothalamus). Please click on the link for further information: webspace.ship.edu/cgboer/limbicsystem.html

Session 5–6

Follow this by introducing LO2: Understand self-regulation in children from birth to seven years.

The following assessment criteria may be achieved through the teaching and learning suggested below:

2.1 Explain the five domains of self-regulation

2.2 Explain the five domains of stressors relating to a child's ability to self-regulate
2.3 Describe the influence of the five stressors on children's ability to self-regulate

2.1 Explain self-regulation by exploring the requirements of self-regulation in the context of the EYFS.

Learners can think about their own approach to self-regulation and how we are impacted by our feelings before discussing our expectations for young children through the EYFS.

When looking at assessment criteria 2.2 and 2.3, begin with defining the following domains:

Five domains of self-regulation:

- biological
- emotion
- cognitive
- social
- prosocial.

Learners can work together in small groups to further develop their understanding with examples in context that can be shared with the rest of the peer group. Follow this by looking at stressors relating to self-regulation.

Five primary domains of stress:

- biological – noises, crowds, too much visual stimulation, not enough exercise
- emotional – strong emotions, both positive (over-excited) and negative (anger, fear)
- cognitive – difficulty processing certain kinds of information
- social – difficulty picking up on social cues, or understanding the effect of his behaviour on others
- prosocial – difficulty coping with other peoples' stress.

Session 7

Next, introduce LO3: Understand factors impacting self-regulation for children from birth to seven years.

3.1 Analyse the role of self-regulation for children's holistic health
3.2 Explain the impact of the following on self-regulation in children:
- **Special Educational Needs and Disabilities (SEND)**
- **transitions**
- **significant life events.**

This session will be a continuation of the previous sessions. Learners can recap the five domains and engage in a large group discussion around the stressors that inhibit self-regulation. To fully appreciate the impact of special educational needs on self-regulation in children, it may be useful to consider case studies. There are some examples below:

- Simon is 4 years old and has Down's Syndrome
- Abi is 2 years old and has a physical disability
- Lois is 3 years old and has speech, language and communication needs.

Using the case studies identified above, learners can begin to think about how a special educational need may impact self-regulation.

Discuss transitions experienced by children and how children's ability to self-regulate may be challenged during transition as well as during other significant life events.

Session 8–10

Introduce LO4: Understand co-regulation and its role in the development of self-regulation.

4.1 Describe the term co-regulation
4.2 Discuss the role of co-regulation in supporting children to achieve self-regulation

Begin this session by recapping self-regulation and the five domains. This may be best achieved by looking at an image and reflecting on the stressors that can be associated with each of the domains. The session is now moving on to look at co-regulation and will start to consider the role of co-regulation in nurturing children for self-regulation.

As a large group, learners can begin to discuss the meaning of 'co-regulation'. They can then begin to closely examine the role of the practitioner in relation to the quality of their responsive interactions that provide the support, coaching and modelling children need when nurturing self-regulation. Learners can work in small groups to identify opportunities for co-regulation to develop routinely throughout the child's day and present to their peers one occasion/experience with a rationale for how this supports self-regulation. A useful extension activity would be to observe a child in an early years setting and identify moments where the practitioner modelled nurturing behaviour supporting self-regulation, and identify opportunities that had been missed. Other useful extension activities here would be:

1. Arrange for a guest speaker to attend the class and take questions around co-regulation.
2. Interview a member of staff in an early years setting to discuss their approach to co-regulation.
3. Create a factsheet around co-regulation for self-regulation.

If possible, all three of these exercises would be worthwhile activities for the learners and would help to consolidate the learning to date.

Session 11–13

Introduce LO5: Understand the stress response system and the types of stresses which impact on children from birth to seven years.

5.1 Define the stress response system
5.2 Define the three types of stress
5.3 Evaluate the impact of each type of stress on the child from birth to seven years

Introduce this session with a large group discussion around:

- What can cause stress?
- How might we react when we are stressed?

Learners can work in small groups to explore the three recognised types of stress:

- acute stress
- episodic acute stress
- chronic stress.

Following their group research, learners should use examples of each type of stress to discuss the impact on the child from birth to seven years. These sessions are a useful and logical lead into discussions about adverse childhood experiences (ACEs) in LO6.

Session 14–15

Adverse childhood experiences (ACEs) can now be introduced as per LO6: Understand adverse childhood experiences and how they influence long-term wellbeing and development.

6.1 Describe the ten adverse childhood experiences that a child from birth to seven years could experience
6.2 Discuss how adverse childhood experiences influence short and long-term wellbeing and development

To introduce this area of learning, the following website may be useful as it offers some background as well as identifying the 10 ACEs and how they may impact development: www.in-mind.org/blog/post/adverse-childhood-experiences-and-its-lifelong-consequences?gclid=EAIaIQobChMI6Z3Wovz15QIVBLDtCh15rAXBEAAYBCAAEgI1M_D_BwE

Session 16–17

These sessions will introduce LO7: Understand behaviour and approaches to support children from birth to seven years.

7.1 Identify typical and atypical behavioural development of children from birth to seven years
7.2 Compare and contrast traditional behaviourist **practices with alternative relational approaches in regard to nurturing positive behaviour**
7.3 Analyse the impact of Emotion Coaching **when working with children from birth to seven years**

Traditional behaviourist: current behaviour management policies and practices with regard to early years practice.

Emotion Coaching: a communication strategy used to support young people to self-regulate and effectively manage stress responses.

Begin by looking at stages and sequences of child development of children from birth to seven years and discuss the significance of typical and atypical development recognition and consider how the stage a child has reached impacts behaviour. Next, look at behaviour policies and strategies in an early years setting. This can be undertaken through discussion followed by policy exploration, and learners can share strategies used at early years settings and how they are applied. Learners can research behaviourist approaches and compare these with relational approaches in preparation for a group discussion. When discussing relational approaches for nurturing positive behaviour, introduce Emotion Coaching, making links here with co-regulation. This may be a useful website to use when introducing Emotion Coaching: www.emotioncoachinguk.com/

Session 18–20 can be assignment workshop sessions.

In these sessions reflect on new terms to create a glossary of terms. Time could also be used to look through the useful wesites section.

Resources and further reading

The following websites will be useful to share with learners as part of their studies and also provide opportunity to find out more. If using any of the links as part of lesson planning, Tutors are advised to check that the content is still available and how to introduce and build from the content.

- webspace.ship.edu/cgboer/limbicsystem.html
- www.in-mind.org/blog/post/adverse-childhood-experiences-and-its-lifelong-consequences?gclid=EAIaIQobChMI6Z3Wovz15QIVBLDtCh15rAXBEAAYBCAAEgI1M_D_BwE
- www.emotioncoachinguk.com/
- www.oxfordbrainstory.org

Assessment tasks

These non-mandatory assessment tasks have been developed to support the assessment criteria for Unit 03. They have been divided into a series of tasks.

Task 1
(AC 1.1, 5.1–5.3)

Use an image to explain the function of the limbic system and define the stress response system and the three types of stresses which impact on children from birth to seven years of age.

Work with colleagues to evaluate the impact of each type of stress on children from birth to seven years of age and produce a report to summarise your collaborative findings.

This may be achieved through a presentation or professional discussion with colleagues through peer feedback and self-reflection.

Task 2
(AC 2.1–2.3, 4.1–4.2)

Plan a policy framework and share with staff. The policy framework must address the following objectives:

- explain the five domains of self-regulation
- explain the five domains of stressors relating to a child's ability to self-regulate
- describe the influence of the five stressors on children's ability to self-regulate
- describe the term co-regulation
- discuss the role of co-regulation in supporting children to achieve self-regulation.

Task 3
(AC 3.1–3.2)

Lead a staff meeting to:

- analyse the role of self-regulation for children's holistic health
- explain the impact of the following on self-regulation in children:
  - Special Educational Needs and Disabilities (SEND)
  - transition
  - significant life events.

Task 4
(AC 6.1–6.2)

Research the ten adverse childhood experiences that a child from birth to seven years of age may be subjected to and describe them.

Select one adverse childhood experience to discuss how adverse childhood experiences influence long-term wellbeing and development.

Task 5
(AC 7.1–7.3)

Reflect on notes from teaching and learning and use examples to:

- identify typical and atypical behavioural development of children from birth to seven years
- compare behaviourist management approaches to more relational approaches in understanding behaviour and nurturing positive behaviour
- analyse the impact of Emotion Coaching when working with children from birth to seven years.

Unit 03 Contemporary thinking and research from the neurosciences about child development from birth to seven years (L/617/8541)

Unit number	L/617/8541		**Unit level**	4
Unit hours	Guided learning:	40	Non-guided learning:	10
Unit aim	The aim of this unit is to gain a deeper understanding of contemporary thinking and research from the neurosciences and acquire a critical insight into this thinking and research in understanding child development from birth to seven years.			

Session 1–3

Begin this unit by sharing the learning outcomes as part of a large group:

LO1: Understand neuroscientific concepts
LO2: Understand neuromyths
LO3: Understand critiques of neuroscience in early years

Once the learning outcomes have been explored, return to LO1: Understand neuroscientific concepts.

1.1 Describe current thinking in neuroscience that relates to early years
1.2 Outline the following terms:
- **Polyvagal theory**
- **HPA axis**
- **epigenetics**

Learners could work in small groups to consolidate learning so far to consider what we know in relation to:

- how the brain develops from conception to age seven years
- the role of the nurturing Early Years Educator in practice: how do Early Years Educators support children (make reference to co-regulation)?

Learners should prepare for a small peer group presentation followed by feedback.

Learners can research the **following terms** and create factcards outlining these terms in context or suggesting areas for further exploration:

- breakdown **Polyvagal theory** so that the social engagement system element of the theory is related to the stress response system **(HPA)** and consider ‘vagal tone’ here.
- **Epigenetics** and the influence on brain development and plasticity

Session 4–6

Introduce LO2: Understand neuromyths.

2.1 Identify neuromyths
2.2 Analyse examples of neuromyths

2.3 Consider the impact of neuromyths on current early years practice

Neuromyths: common misconceptions about brain research, with information being confounded, over-simplified, misrepresented and over-generalised and presented as the truth.
Begin this session by considering what is understood by 'neuromyth'

Initiate a large group discussion to consider the potential harm that neuromyths may cause within early years practice and how individuals may be impacted by such discourse.

Follow this discussion by leading straight on to LO3: Understand critiques of neuroscience in early years.

Learners should be able to evaluate critiques of neuroscience in early years:

3.1 Evaluate critiques of neuroscience in current early years practice

Assessment tasks

Task 1
(AC 1.1–1.2)

Prepare resources for staff training to include:

- description of current thinking in neuroscience that relates to early years
- an outline of the following terms:
  - Polyvagal theory
  - HPA axis
  - Epigenetics.

Task 2
(AC 2.1–2.3, 3.1)

Produce a report that enables staff to understand neuromyths and evaluate critiques of neuroscience on current early years practice. The report must:

- identify neuromyths
- analyse examples of neuromyths
- consider the impact of neuromyths on current early years practice
- evaluate critiques of neuroscience on current early years practice.

Unit 04 Implementing neuroscience-informed change through practitioner-led enquiry (R/617/8542)

Unit number	R/617/8542		**Unit level**	4
Unit hours	Guided learning:	60	Non-guided learning:	10
Unit aim	The aim of this unit is to implement neuroscience-informed change through practitioner-led enquiry within own setting.			

LO1: Understand the role of reflection
LO2: Be able reflect on the current neuroscience-informed provision
LO3: Be able to identify change through practitioner-led enquiry
LO4: Be able to implement the chosen area of change
LO5: Be able to review and revise current practice in own setting

This unit is a research based learner-led enquiry and has been developed to support change through procedural development impacting practice in the early years setting. The overarching aim is to influence practice by raising an awareness of neuroscience in the early years amongst staff at the setting and collaboratively making recommendations for improved practice.

Before the research can begin, lead a discussion around theoretical cycles of reflection. The discussion should include the models highlighted by:

- Lewin
- Gibbs
- Schon.

Most learners will be undertaking action research and they may find it useful to consider relevant theories regarding action research and knowledge transfer, impacting organisational change such as applying the five stages of knowledge transfer introduced by Ward et al, (2009).

Assessment task

This non-mandatory assessment task has been developed to support the assessment criteria for Unit 04.

Task 1
(AC 1.1)

Introduce staff to continuous professional development through the introduction of cycles of reflection. This can be witnessed by peers as a professional discussion or peer feedback. The content of the discussion must explain at least two cycles of reflection for the member of staff to consider.

Section 3

Assessment and quality assurance information

Assessment guidance

A recommended range of assessment methods has been identified for the units in this qualification. This gives the opportunity for different learning styles and individual needs of learners to be taken into account.

If you are proposing to use an assessment method that is not included within the recommended list, you should contact your External Quality Assurer with full details of your proposed method. It will need formal approval from us before it can be used.

Each learner must generate evidence from appropriate assessment tasks which demonstrate achievement of all the learning outcomes associated with each unit.

Unless stated otherwise in this qualification specification, all learners taking this qualification must be assessed in English and all assessment evidence presented for external quality assurance must be in English.

Ref	Assessment Method	Assessing Competence/ Skills	Assessing Knowledge/ Understanding
A	Direct observation of learner by Assessor • by an Assessor who meets the relevant Sector Skills Council's or other assessment strategy/principles and includes inference of knowledge from this direct observation of practice	Yes	Yes
B	Professional discussion	Yes	Yes
C	Expert Witness evidence • when directed by the Sector Skills Council or other assessment strategy/principles	Yes	Yes
D	Learner's own work products	Yes	Yes
E	Learner log or reflective diary	Yes	Yes
F	Activity plan or planned activity	Yes	Yes
G	Observation of children, young people or adults by the learner	Yes	Yes
H	Portfolio of evidence	Yes	Yes
I	Recognition of prior learning	Yes	Yes
J	Reflection on own practice in real work environment	Yes	Yes
K	Written and pictorial information	Yes	Yes
L	Scenario or case study	Yes	Yes
M	Task set by CACHE (for knowledge learning outcomes)	N/A	Yes
N	Oral questions and answers	Yes	Yes
O	Assessment method devised by centre and approved by CACHE	N/A	Yes

Assessment strategies and principles relevant to this qualification

The units we offer have been developed in line with the specific **assessment strategies or principles** of different Sector Skills Councils (SSCs) or by us where there is no SSC lead.

The key requirements of the assessment strategies or principles that relate to units in this qualification are **summarised** below. More detailed strategies or principles can be found in **Delivering our Qualifications – Assessment and Internal Quality Assurance Guidance**, which can be found on the secure website.

The centre needs to ensure that individuals undertaking Assessor or Quality Assurer roles within the centre conform to the SSC or CACHE assessment requirements for the **unit** they are assessing or quality assuring.

Requirements for Assessors

All those who assess these qualifications must:

- already hold the qualification (or previous equivalent qualification) they are assessing and have successfully assessed learners for other qualifications; if assessing quality assurance roles, they must have experience as a qualified quality assurance practitioner of carrying out internal or external quality assurance of qualifications for a minimum of two Assessors
- have up-to-date working knowledge and experience of best practice in assessment and quality assurance
- hold one of the following qualifications or their recognised equivalent:
  - the Level 3 Award in Assessing Competence in the Work Environment or
  - the Level 3 Certificate in Assessing Vocational Achievement, **or**
  - A1 Assess Candidate Performance Using a Range of Methods, **or**
  - D32 Assess Candidate Performance and D33 Assess Candidate Using Differing Sources of Evidence
- show current evidence of continuing professional development in assessment and quality assurance.

Requirements for internal quality assurance

All those who quality assure these qualifications internally must:

- have up-to-date working knowledge and experience of best practice in assessment and quality assurance
- hold one of the following Assessor qualifications or their recognised equivalent:
  - the Level 3 Award in Assessing Competence in the Work Environment, **or**
  - the Level 3 Certificate in Assessing Vocational Achievement, **or**
  - A1 Assess Candidate Performance Using a Range of Methods, **or**
  - D32 Assess Candidate Performance and D33 Assess Candidate Using Differing Sources of Evidence
- hold one of the following internal quality assurance qualifications or their recognised equivalent:
  - the Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practice, **or**
  - the Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practice, **or**
  - V1 Conduct Internal Quality Assurance of the Assessment Process, **or**
  - D34 Internally Verify the Assessment Process
- show current evidence of continuing professional development in assessment and quality assurance.

Assessment Strategy

Knowledge learning outcomes

- Assessors will need to be both occupationally knowledgeable and qualified to make assessment decisions
- Internal Quality Assurers need to be both occupationally knowledgeable and qualified to make quality assurance decisions.

Competence/Skills learning outcomes

- Assessors will need to be both occupationally competent and qualified to make assessment decisions
- Internal Quality Assurers will need to be both occupationally knowledgeable and qualified to make quality assurance decisions.

Section 4

Documents

Useful documents

This section refers to useful documents that can be found on the secure website, some of which may assist with the delivery of this qualification.

- Delivering our Qualifications – Assessment and Internal Quality Assurance Guidance
- Paediatric First Aid Guidance – for the L2 CYPW / L2 CCLD (W/NI) / L3 CCLD (W/NI) and L3 EDCCLD (W/NI) quals ONLY
- Paediatric First Aid Guidance (Podcast) – for the L2 CYPW / L2 CCLD (W/NI) / L3 CCLD (W/NI) and L3 EDCCLD (W/NI) quals ONLY
- QCF Glossary (Skills for Health) – this is for Health, all HSC quals, and L2 and L3 CYPW quals ONLY

Useful websites

The following websites will be useful to share with learners as part of their studies and also provide opportunity to find out more. If using any of the links as part of lesson planning, Tutors are advised to check that the content is still available and how to introduce and build from the content.

- mineconkbayir.co.uk/
- www.psychalive.org/minding-the-brain-by-daniel-siegel-m-d-2/
- www.naeyc.org/resources/pubs/yc/may2017/caring-relationships-heart-early-brain-development
- www.frontiersin.org/articles/10.3389/fnins.2015.00333/full
- www.urbanchildinstitute.org/why-0-3/baby-and-brain
- dera.ioe.ac.uk/18189/2/SSU-SF-2004-01.pdf
- educationendowmentfoundation.org.uk/evidence-summaries/early-years-toolkit/self-regulation-strategies/
- www.nurseryworld.co.uk/nursery-world/feature/1147538/eyfs-practice-about-neuroscience-infantbrain
- developingchild.harvard.edu/resources/inbrief-science-of-ecd/
- self-reg.ca/infographics/

Mandatory documents

The completion of an Evidence Record and Record of Assessment Cycle form is mandatory. We have devised these templates for your convenience; however, you may design your own forms which comply with the content of our templates.

- Evidence Record
- Record of Assessment Cycle

We have also provided notes to guide you when completing these forms:

- Completing the Evidence Record
- Completing the Record of Assessment Cycle

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