

Teaching Teenagers

Unlocking potential in the young adult classroom



All digital content
available on **allango**

Teresa Bestwick and Fiona Mauchline

DELTA TEACHER DEVELOPMENT SERIES

DELTA
Publishing



DELTA TEACHER DEVELOPMENT SERIES

Series editor: Sandy Millin

Teaching Teenagers

Unlocking potential in the young adult classroom

Teresa Bestwick

Fiona Mauchline



Access all the accompanying digital components for this book
on **allango**, the DELTA Publishing language learning platform:



Scan the QR code
or go directly to
www.allango.co.uk

Search for the title
or the ISBN and click
on the cover image

Access content,
use now or save
for later



When you see this symbol, accompanying digital content is available.

Teaching Teenagers: Unlocking potential in the young adult classroom

Many teachers - colleagues and friends - have inspired the ideas in this book and we are eternally grateful to all the wonderful ELT professionals who give their time, energy and expertise to share activities at conferences, blog about things they have tried in class and post helpful lesson ideas on social media. You are our heroes. We'd also like to thank Sandy for her support and encouragement when editing the book and Kate for her watchful eye and guidance.

From Fiona: First and foremost, thanks to my father and sons - and of course Mr. Muse – who are the pillars that hold me up and make my life a good place to be. Thanks also to all the amazing people I've met in this glorious ELT world – friends, colleagues, trainees and learners; without you, I would not still be here teaching over three decades on. Thanks to T for saying 'yes', when I asked her to write this book with me ('Fi & T' is now a thing), and thank you to all my teens, past, present and future. I'm so proud of what you've achieved; this labour of love is about and because of you.

From T: First of all, thanks Dave for putting up with my love of all things TEFL! Thanks to Mark and Ginny for giving me my first job in ELT and for suggesting the development course which first put me in contact with Fiona. And thanks to all the fabulous folks I've met over the years at and through Active Language – your dedication to the profession continues to inspire.

1st edition 1 5 4 3 2 1 | 2028 27 26 25 24

The last figure shown denotes the year of impression.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher.

DELTA Publishing, 2024

www.deltapublishing.co.uk

© Ernst Klett Sprachen GmbH, Rotebühlstraße 77, 70178 Stuttgart, 2024

Authors: Teresa Bestwick / Fiona Mauchline

Series Editor: Sandy Millin

Project Manager: Kate Baade

Cover and layout: Andreas Drabarek / Eva Lettenmayer

Design: Datagroup Int. SRL

Printing and binding: Elanders GmbH, Anton-Schmidt-Str. 15, 71332 Waiblingen

Printed in Germany

ISBN: 978-3-12-501773-3

From the authors

Fiona

If you told the 15-year-old me that I'd become a teacher, teacher trainer and a writer of teaching books, I would have laughed until my socks fell off. However, conversations with peers suggest my story may not be so unusual. That 15-year-old me was a really bad student who hated school - it was the last place on earth I wanted to be. I was demotivated, felt totally disempowered, and spent many evenings in tears.

Fast forward to the late 1990s and I'm a Director of Studies in a large language school, allocating myself all the 'difficult' classes, including the 'Repeaters': the teens who had to repeat school years because they just couldn't pass English. Their demotivation and resentment were tangible and I recognised my teen self in them. So, I decided to reflect on what my teachers had done at school that had so demotivated me, with the plan to then do the opposite. It worked.

I won't bore you with the rest of the story, but it includes the much-missed Dogme Group, years of research, conferences, conversations and teen classes – and loving it all. The hundreds of young people I've worked with have made the classroom my 'happy place', and I think they've taken something away from it too. Something more than English. As you know, being a teen can be hard, trying to find your place in the world and discover or uncover who you are. But I firmly believe that, as teachers of teens, we are helping to form adults, showing them their potential, co-constructing their futures, and we owe it to them – and to ourselves – to do it well.

I feel honoured to have been able to write this book and am hopeful that it will not only be a treasure trove of activities for you, but that it'll inspire you and help you to inspire your learners. I also hope it'll help you find a way ahead when things are challenging, and that it'll stay with you until it's well-worn and dog-eared, but still loved. Just like a favourite teacher.

Teresa

I won't say I've always loved working with teens because, and I'm sure this is the case for many teachers reading this book, there have been moments of frustration and despair. I've had classes with teens which have made me cry and think about giving it all up. However, there have also been those moments, even lessons, and even entire academic years, of absolute joy and excitement about working with this age group. There have been far more teen classes that I have been excited to teach than dreading.

It also hasn't been a linear development: in my second year of teaching, I got on really well with a group that had been an absolute nightmare for their previous teacher; fast-forward to five years later and I was sitting in the staffroom watching the minute hand move steadily closer to impending doom with my bi-weekly all-male group of six fourteen-year-olds.

So, if you love teens, I know the feeling. And if you're reading this and you're having a tough time, I've been there too. Whilst this book isn't a silver bullet, hopefully it helps you see a silver lining on those days of dark clouds.

Contents

From the authors	3	1. Learners as teachers.	26
A	7	2. The safe, rich learning environment	26
Teaching teenagers: silver bullets, wooden spoons and other gadgets	9	3. Safeguarding	26
Learning more about the development of teenage brains	9	4. The Learning Tree	27
Generational differences	10	5. Transferable skills	27
Finding solutions	10	6. Authenticity.	27
Learning to drive	11	7. Active learning	27
Why this process was successful	12	8. Stimulating the senses	27
The teenage brain.	13	9. Developing relationships.	28
Grey matter.	13	10. Play	28
White matter and myelination.	13	A final note on the teacher of teens	28
The limbic system	13	Further Reading	29
The hippocampus	14	B	30
The amygdala	14	Introduction.	31
Caudate nucleus	15	Key to icons	31
The prefrontal cortex.	16	Chapter 1: Self.	32
Memory	17	Who am I?	33
The senses.	18	I am this button.	34
Colour and the brain.	18	Me time	35
Art and the brain.	18	Smells like	36
Mentalizing	19	Visualisation	37
Teens in the classroom	20	What do you want to write about?	39
Learning by socialising.	20	Video CV.	40
Fitting in	21	On the spot pictures	41
A hierarchy of needs	22	Emojiise!	42
Taking risks	22	Yesterday, I didn't...	42
Social and motivational contagion	23	From a different perspective	43
Stress levels	24	The stress bucket.	44
Empathy	24	Journalling	45
Teachers and teens	25	Pause for thought	46
Good practices when teaching teens	25	This week I learnt....	47
		Talk to me	47
		Poems	48

Contents

Exit tickets	49	Accessible adverts	85
Chapter 2: Social: building rapport	51	Song dictation	86
A Venn diagram	52	Shower karaoke	87
Cloudy questions	53	Sing me a story	88
On a scale from 1 to 10	54	Musical visualisation	89
Definitely, maybe	55	Musical monsters	90
Question drill	56	Story maps	91
Sign my sheet	57	Emoji stories	92
True or false for grammar practice	58	Graded readers	93
Group predictions	59	The shortest summary	94
Snowball fight	60	Chapter 5: Using course materials	95
Reported speech mingle	61	What are you looking forward to?	96
‘This is me’ Mondays	62	Reflecting my reality	97
Chapter 3: Social: working together	64	Negotiating content	98
The tornado game	65	Rewrite the vocabulary box	98
Change chairs if	66	Rewrite the grammar exercises	99
You’ve sunk my vocabulary ship!	67	Character builds	100
Incorrect picture descriptions	68	Multimodal photos	101
Shopping for a gift	69	Live listening	102
Echoes	70	Remodel the model	103
Matchmaker	71	We know more than the writer!	104
Potato, spoon, tub	72	Order in the (history) classroom	105
What’s the question?	73	Predicting comprehension	106
Storyboard consequences	74	Are they telling the truth?	106
Brainstorming story ideas	75	Silent dictation	107
Chapter 4: Using media	76	Pass the paper dictation	108
Scroll and stop	77	Missing letter sentences	109
Ask Me Anything (AMA)	78	What’s the difference?	110
Phrasal verb photos	79	Chapter 6: Projects	111
Selfie mad	80	How to shorts	112
Picture halves	82	Teaching the class	113
Build the picture	82	Top sellers	114
Linguistic landscapes	83	Text-teach-text	115
Video comprehension	84	The names quiz	117

Mission: possible	118
Catching language	119
Dramatic graded readers	120
Such annoying customers!	121
Setting up film projects	122
Making movies	123
Reflecting other people's realities.	124
Round here	125
Good morning, world!	126
Chapter 7: Learning	127
What are my objectives?	128
How do you stay organised?	129
The big frog	130
Vocabulary categories	131
Me grids	132
Building a memory palace	133
Reading to review	134
Doodle notes.	135
Brainy graphix	136
Grammar hitlists	137
Exam rehearsals.	138
Preparing for presentations	139
English all around me	140
Choose your homework	141
Lesson CUE	143

C	144
Introduction.	145
Teaching challenges and suggestions	145
Reflection activities.	158
Reflecting with others	163
From the editor	167

A



Teaching teenagers: silver bullets, wooden spoons and other gadgets

The challenge

Teaching teens is considered by many to be a challenge on a par with battling a mythical beast or dealing with Dr Jekyll and Mr Hyde, and some teachers may be looking for a silver bullet in reading a book such as this. However, as those teachers already intuitively know, there is no silver bullet – it's just as mythical as the beast. Teenagers are complex beings, each one in the process of becoming an individual, forging their own identity, learning about their own personality, motivations, and emotions and with their own pace of maturity or development. Just as when we think of our fellow teachers we cannot say that they are all this way or that way, teenagers are equally not an identical in the way they think, feel, act and react, and are not all 'difficult'. We cannot talk about 'the average teen' due to their wildly differing tastes and preferences and the variety in their life experience and backgrounds. For example, you'll notice that in the book, we refer to *caregivers*, rather than parents, to reflect that our teens come from a variety of different family backgrounds and not all of them have birth parents who are their primary caregivers. In the task ► *Reflecting my reality* in Using course materials, we encourage both you and the learners to reflect on who is included in our lesson materials, and who may be missing.



Pause for thought 1

Think back to when you were 14 years old. Do you remember your group of friends? What about two people in your class that you disliked? In what ways were you different from each other? Think about your tastes in clothes, music and haircuts, your levels of confidence, how loudly or often you spoke, school subjects you were stronger in, your skills, hobbies, first loves, relationship with caregivers and siblings or cousins, and so on.

How similar were you to your friends and classmates?

Learning more about the development of teenage brains



Pause for thought 2



How much do you know about the brain and how it works or develops? Can you name any parts or areas of the brain? What about the functions they are responsible for?

How useful is a knowledge of neuroscience for teachers of teenagers? How might it help you?

Unfortunately, we won't find complete, definitive 'one-size-fits-all' answers to understanding teenagers in neuroscience, as we will see in ► **Teens: the brain** later on in Part A. One of the main reasons that understanding neuroscience is not the solution some educators think it could be is there is currently not enough research into the adolescent brain. The ability to use fMRI scanning to study living brains has only really developed since the very end of the twentieth century. Any truly informative study would need to be longitudinal, studying the same people as they develop throughout the years from puberty until the mid-to-late twenties, when cognitive adolescence ends. To reflect that this period of development continues into our twenties, we often refer to *adolescents* and *adolescence* in Part A, rather than *teens* or *teenagers*. In addition, culture is likely to affect certain aspects of cognitive development, so studies would need to be carried out in a wide range of different places in order for them to be completely reliable.

Generational differences



Pause for thought 3

Think about how you communicate now and in the past.

How did you communicate with friends and family when you were 15? How has your mode of communication with others changed over time?

Do you feel equally comfortable with different modes of communication, for example face-to-face and online interaction or written and verbal interaction?

To what extent do you feel these communication preferences are because of the generation you belong to? How do you think this might compare to 15-year-olds in the current generation?

Another problem with defining what we mean when we talk about ‘teens’ is that each generation of teenagers is slightly different from the one before or after, thanks to when they were born and key events in their formative years. This means that any research related to teens, which, as we mentioned earlier, would need to be carried out over time, has the potential to be obsolete even before that research has been completed. To demonstrate, here are some differences between the generations who are teens at the time of writing this book in 2024.

‘Generation Z’ was born between 1996 or 1997 and around 2012. At the time of writing, this is the generation still going through adolescence. It is the first generation to grow up with the internet in the background of their lives and computers in many of their homes. Generation Z teens have little recollection of life before the Twin Towers came down in 2001, an event that shifted levels of anxiety both globally and in the home. This is the generation that was in upper primary and secondary school when the coronavirus pandemic sent education into chaos in many countries, created a period of online education at scales never seen before, and hid the lower part of millions of faces behind identical face masks, thus causing problems with their cognitive development and introducing new challenges for teenagers and their teachers.

The generation after Generation Z is currently called ‘Generation Alpha’. The oldest individuals in this group were born in 2012 and, at the time of writing in 2024, are just on the cusp of puberty. There is obviously no research into their brains and development during adolescence as yet, but as the pandemic impacted their Early Years learning stages, including language development and social interaction, it is likely that their development may have some characteristics that differ from Generation Z, ‘Millennials’ (born between the early 80s and 1996-1997) and ‘Generation X’ (born between the mid 1960s and late 1970s). Trauma and anxiety are known to have an effect on the brain, so it seems likely that the constant underlying anxiety of the two years between 2020 and 2022 will have left its mark on the young brains of Generation Z in a slightly different way from the way it affected older brains, and in different ways depending on each individual’s national and personal circumstances during the pandemic. To best support these learners, we will just have to wait for that research to happen – but when it does, of course, the next generation of teens will have arrived.

Finding solutions

Despite this lack of research, we teachers are a highly pragmatic species and we’re generally good at finding solutions in less-than-perfect circumstances. What can we use to support these young people in our teen classrooms right now?



Although we can’t count on a silver bullet, as teachers we do have ‘wooden spoons’: essentials in our ‘teacher skills kit’ that we can adapt to fit our purposes. A wooden spoon can stir without causing damage, but it can also become a puppet, stop a pot from boiling over, keep a door open, beat time to the music, draw a line in the sand, plug a hole, and be bitten on to help us bear pain. Metaphorically speaking, this list of uses for a wooden spoon shows similarities with teaching, and we teachers, like cooks, can also find practical solutions to our teaching problems using tools that may not be sophisticated and new.

Modern kitchens, of course, also have many fancier gadgets, and although some are just gimmicks that will end up in the charity shop, some, such as the air-fryer, can genuinely enhance our cooking and save us time. If you have access to these fancier gadgets, you might even be foolish not to use them, as long as you know how they work and how best to use them.



Pause for thought 4

If you have been teaching for a number of years, how many trends or buzzwords in English Language Teaching (ELT) can you remember? Which were or are genuinely useful? Which disappeared or changed into something else?

If you are new to teaching, how many trends or buzzwords in ELT are there at the moment? Have a look at a conference programme or lists of webinars: which words appear several times? Which do you predict will leave their mark and which will quietly disappear or change?

Just like cooking with a basic wooden spoon can be enhanced by taking advantage of more advanced gadgets like an air fryer, so too can our basic teacher skills kit for working with teens be developed. Our classroom practice can be enhanced by attending training, reading research, and gaining experience, developing our intuition and common sense and learning more about neuroscience and psychology. But just like using an air-fryer, we can only take advantage of this knowledge if we know how to use it effectively.



Learning to drive



When Fiona's younger son was learning to drive, his levels of frustration hit a peak when he failed his test for the second time. The cost of lessons and tests was going up and up, so with some nervousness, she decided to buy a second-hand car and help with his driving practice.

Her role as 'mum' had always been kept separate from her profession as 'teacher', as it is rarely good to blur those roles, but after an hour out on the road and observing what her son had 'learnt' from his previous lessons, she suggested to him that she take over as his instructor. After a few hour-long drives sitting side by side, he passed his test. Why?

Well, certainly not because Fiona is some kind of naturally gifted superstar of the driving-school world, but she is a teacher of teens. She managed to shift her son's perception both of what was needed for driving well and of his ability to pass the test by applying her knowledge of motivation and of how the brain works, particularly the adolescent brain.

Her son had been taught to drive by memorizing facts: the distance to maintain between his vehicle and the car in front, what the colour of the signs meant, how many meters before a junction to change gear and so on. He had no concept of why any of those things mattered or of how the engine worked and he could not 'read' the car at all, concentrating only on the road outside. He also only looked straight ahead, not anticipating other drivers' actions and not reading signs painted on the road surface. He was not ► mentalizing (using what he knew about the road) or using his ► senses to enhance his knowledge and awareness as he drove.

Teaching him became a balance of the calm patience all teachers acquire (often involving deep breaths), and of helping him learn how to 'hear the car's voice', read the sensation in his feet, and notice things outside the car. Fiona also had to move him away from his natural desire to risk-take and 'Just nip through before the light goes completely red' or 'Just do a little U-turn because no-one will notice'. No-one except other drivers and the examiner! The way to get him away from this risk-taking was to emphasise the sense of immediate reward by empowering him, helping him develop skills he could consciously evaluate and apply, and which would then allow him to notice his own progress. It was not about telling him to turn left here or pointing out what he was doing wrong, it was about allowing him to show Fiona how well he could do things. Then when the near-misses happened – and there were a

couple! – it was about discussing his performance, why things had happened and how he could improve on it next time. No criticism was needed.

This was probably the first time Fiona really became aware of the fact that somewhere in her research and in putting it into practice over the decades, she had learned something herself.

Why this anecdote? Because it is an example of what we consider to be some of the key points we need to consider when teaching teens, and it brings together much of the research we have access to about how the teenage brain works.

Why this process was successful

In his 2008 book, *Visible Learning*, John Hattie shared research he had done to identify the most significant factors contributing to learner success. His research involved analysing a wide range of studies into factors influencing learner success, then drawing together his findings into a meta-analysis. Hattie went on to update his work in 2011 and again in 2017. According to his most recent data as we write, the three highest contributing factors to learner success are collective teacher efficacy (the sense the teachers in a school have of being part of a team that can improve the school's pupils' successes), self-reported grades (learners self-evaluating and deciding on their own grades) and teacher estimates of achievement (what a teacher believes a learner is capable of).

As a teacher and a teaching team, it is therefore essential that you believe in your teenage learners, and that you make that belief overt and clear to them. If you do that, your belief is likely to become contagious, leading them to believe in their own potential (see ► Social and motivational contagion).

You also need to allow your learners to evaluate themselves. To do this, Fiona had conversations with her son at the end of each driving session. With your teen learners you could have tutorials, or quiet chats before class. Following up chats and tutorials with reflection tasks, journalling or similar to allow learners to process why you believe in them and what they might need to do in order to achieve their potential is also an effective technique. We include some suggestions for communicating with learners in ► Part B: Self.

Another area to work on is building connections between the senses and the memory. Fiona's son rather liked the idea of the 'voice of the car', so it became an important feature to him, and left its mark more deeply. As he learnt to listen to that voice, feel the sensation through the pedals and look around as well as straight ahead, he began to engage more senses than previously, creating more synapses and triggering more memory potential. He became somehow more connected to the car than he had been and his attention was more focused. His ► amygdala and ► hippocampus were firing on all cylinders (pun intended) and memories were formed more efficiently.

Going through this process meant Fiona's son felt empowered. His new skill set would now allow him to 'read' the car in situations he had never before experienced, and to react accordingly. He had also acquired knowledge which felt like a superpower he could show off to his friends and girlfriend. He had not just been told stuff; he had learnt it.

Finally, if we return to Hattie, many of the other significant factors that he identified as learning strategies leading towards success were also accounted for in the time Fiona spent with her son: deliberate practice, effort, mnemonics, rehearsal and memorization, strategies to integrate new knowledge with prior knowledge, summarizing, cognitively challenging tasks, planning and prediction, and a focus on (classroom) discussion and feedback rather than testing.



Pause for thought 5

In his category 'Strategies emphasising feedback', Hattie's data gives *Different types of testing* as the only factor in the category not to make a significant difference.

Why do you think feedback and classroom discussion are more effective with most teens than testing?

The teenage brain

Neuroscience, the science of the brain, is becoming increasingly present as a term in ELT. Conference proposals and webinar abstracts feature the word and teachers are drawn to it in search of ideas. However, knowing about neuroscience, even the neuroscience behind long-term memory, for example, and knowing how to teach are like knowing all about aerodynamics and knowing how to fly. You can know all the theory, but that's not enough to help you take off and soar. On the other hand, some degree of technical knowledge will definitely help you steer, and give you some of the skills you need on your journey.

While the scope of this book does not allow for a highly detailed description of the human brain and how it develops during adolescence, we have included a brief overview of some of the main parts of the brain which teen teachers might find it useful to know about. If you would like to find out more, we highly recommend looking at some of the books mentioned in ►► Further Reading. We would also like to underline the fact that studies into the exact functions of each part of the brain are ongoing and our knowledge is being refined day-by-day, so you may find there are more up-to-date sources which were published after this book when you come to do your own research.

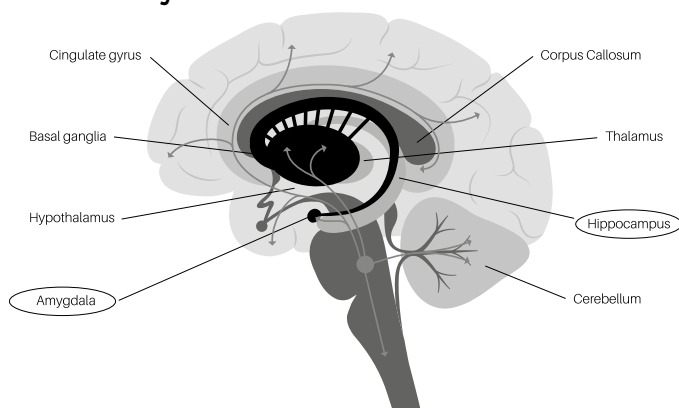
Grey matter

Grey matter consists of cells, nerve endings, receptors, processors and so on, and accounts for just under half of a human brain. This is the typical 'stuff brains are made of' that we are used to hearing about. The amount of grey matter we have peaks around the age of 14 or 15, then it begins to reduce and settle into a more efficient size and shape. The grey matter in a human brain is fully developed by our mid-twenties, which is why this is considered the end of cognitive adolescence.

White matter and myelination

White matter is the neurotransmitters and synapses in the brain, what we might think of as the connections, circuitry or wiring. Neuroscientists are increasingly interested in white matter. As we practise something – the guitar, painting, speaking another language – myelin is created. This is a protective layer strengthening the synapses or neural pathways, like insulation strengthens wiring. Myelin helps electrical messages to travel considerably faster along synapses. If we don't practise or do something, the synapse remains weak and may even disappear. Myelination takes place in the white matter throughout childhood and adolescence, continuing into our late twenties or early thirties, at which point our brains can be said to be fully developed. A little myelination may continue to happen after this but it will be considerably slower.

The limbic system



The limbic system is, loosely speaking, in the middle of the brain, on either side of the thalamus. As a group of brain parts and functions which connect to other brain parts and functions, the exact definition of the limbic system is disputed, but we know that it consists of several elements. For our purposes, we need only look at the ►► hippocampus and ►► amygdala, which we will examine in more detail in the next two sections.

Neuroscientists seem to agree that the limbic system participates in or is responsible for brain functions such as our sense of smell, pleasure

responses, reward systems, motivation, emotion, memory, and learning, most of which are relevant to the classroom. This part of the brain is one of the first to change when we are teenagers, typically between the ages of about 10 and 13. Clearly, therefore, it is important that a teacher of teens have a passing knowledge of what how it develops.

The hippocampus

The hippocampus is part of the limbic system. Although we normally refer to the singular 'hippocampus', we actually have two hippocampi, one in each half of our brain on each side of the thalamus. According to current understanding, the hippocampus helps us to form mental maps of our environment (spatial memories) and to retain factual memories like dates, names or places (declarative memories). It also works with the ►► amygdala and ►► caudate nucleus to convert short-term memories and transfer them to the long-term memory, particularly as we sleep. Exactly how it does this is still debated, though some studies suggest that this process is connected to the mapping function of the hippocampus. The hippocampus is triggered by emotions and senses, meaning that using books rather than screens helps it work more effectively, as the feel of the paper, the corners of the pages, the left-page/right-page layout, the colours and the lack of the flickering you get from a screen all aid the mapping process. The hippocampus is the thing that speaks to you in an exam when you remember where exactly on the page the answer to the question is.... while absolutely refusing to tell you what it says! Any activities involving mapping, boxes, tables, colours and so on are likely to trigger the hippocampus.

The amygdala

As with the ►► hippocampus, we have two amygdalae, one on each side of the brain, but they are commonly discussed using the singular form of the word. The amygdala is part of the limbic system, along with the hippocampus, and they work with the ►► caudate nucleus to form long-term memories. Its other functions also make it a key part of the brain that we can work with in the language classroom.

The amygdala is involved in the production of emotions, both pleasurable, positive emotions, such as joy, happiness and feelings of reward, and more negative emotions, such as fear, aggression and anger. It is also involved in stress and anxiety production, whether positive or negative. Positive stress and anxiety can make you perform better in an exam, work well under pressure, or do well in public speaking and can give you a buzz. Negative, more harmful, stress and anxiety is designed to protect us from danger and triggers the fight-freeze-flight instinct. If our amygdala wants us to fight, we take action to confront the cause of our anxiety, or we get angry about it. If we freeze, we become immobile, panicked or overwhelmed, and don't take any action to resolve the situation. Anxiety which causes flight makes us run away or take other action to avoid whatever set off the reaction.

Speaking a foreign language in the classroom means producing noises that feel strange, at least at first, making funny faces, and potentially making mistakes in front of your peers. This means that negative stress from the amygdala is often triggered in the English Language classroom, regardless of the age of the learners, but it is even more likely in the teen classroom. Common sense tells us that it is not only teaching teens that can be stressful: being a teen can also be stressful. Teens are very much driven by peer pressure, with their sense of identity being inextricably linked to their relationship with their peer group, how they may be perceived, and the need to feel integrated within that group (see ►► Fitting in). This means that any situation where they stand out and can't control it, such as having a good accent in English or accidentally making basic mistakes, exposes the teen to potential ridicule from the 'tribe', the group they are trying to belong to.

As teachers, we do need to activate the amygdala to make learning happen as we are more likely to remember things we have an emotional response to. Importantly, though, we need to make sure we trigger positive emotions to compensate for these negative emotions of stress and anxiety. Two ways of doing this are by normalising mistake-making by drawing attention to our own mistakes or by asking learners to deliberately make mistakes for peers to correct. Some studies show that by planning an activity that triggers the emotions after a key learning event, retention of new information is greater. This is a very good argument for following up quieter input stages with games, challenges, and other engaging tasks to promote these positive emotions.



Pause for thought 6

Close your eyes and imagine these things. Which senses activate? Can you smell them? Do you hear any sounds? What colours come to mind?

- ▶ Changing rooms at the gym
- ▶ Freshly brewed coffee
- ▶ A florist's shop
- ▶ Rainy streets

As with the ⌚ hippocampus and ⌚ caudate nucleus, the amygdala is triggered by the ⌚ senses, with the sense of smell seeming to be the strongest. This explains the ease with which most of us can associate certain smells with places, people and events. You may be pleased to hear that in the classroom, the sense of smell can be activated without the need for old cheese sandwiches, perfumed candles or other pungent realia! Just as we have a mind's eye that pictures things, and a mind's ear that plays earworm music on a loop or helps us 'hear' what we've written, we also have a mind's nose. Even the mention of certain words or phrases will tend to trigger the mind's senses. When you read *old cheese sandwiches*, did you smell them in your mind? What about *perfumed candles*? Your lived experiences, senses and emotions all come together in the amygdala, so did you experience a flickering of emotion as you brought those things to mind?

Caudate nucleus

There are also two caudate nuclei, one on each side of the brain, but they are referred to in the singular. The caudate nucleus is not part of the limbic system, but sits just above it. It works with the hippocampus and amygdala to form, store and recall memory. The caudate nucleus likes problem-solving and decision-making activities, particularly critical thinking or making value-based judgements. It is also activated during categorising activities, such as tasks asking learners to assign lexical items to categories, and sensorial tasks such as the smell-related one in the previous paragraph.

Furthermore, the caudate nucleus can also be activated by beauty. Although the exact concept or definition of beauty may be culture-dependent, the ability to recognize it and respond to it is neurological. As the caudate nucleus is also in the area of the brain which is at its 'busiest' stage of development in the adolescent years, this is also a facet we can exploit to maximise learning. Images in particular, and activities to evaluate e.g. the artistic merits of paintings, photos and so on, in order to practise the language of liking and disliking or adjectives of opinion would serve to strengthen and thereby help enlarge the caudate nucleus.

Researchers have discovered a direct correlation between the size of the caudate nucleus and the capacity for verbal expression, and adolescence is the optimal time to develop this. This again gives weight to the suggestion that we should use sensorial stimuli in the teen classroom – images, videos, realia, and the 'inner senses' as detailed under amygdala.

A final note on the caudate nucleus is to say that studies carried out by researchers including Abutalebi et al. (2013) strongly suggest that the left caudate is always activated in the brain of multilinguals. These researchers' studies using fMRI scans appear to show that anyone with a level of roughly B¹ in the CEFR (Intermediate) in a second language (L2), or anyone bi- or multilingual is, to an extent, permanently thinking in both or all of their languages. Furthermore, it is the left caudate that appears to be responsible for selecting the correct language or linguistic items for the context, along the lines of saying 'we're speaking German so we need this word; now we're speaking English, so we need this other one'. Many of us who can speak more than one language have experienced moments when we can only think of a word in one language but not in another, perhaps not even in our first language (L1) - 'It's only coming to me in Spanish, right now' – particularly when we are tired. This is your caudate telling you to rest and recharge.