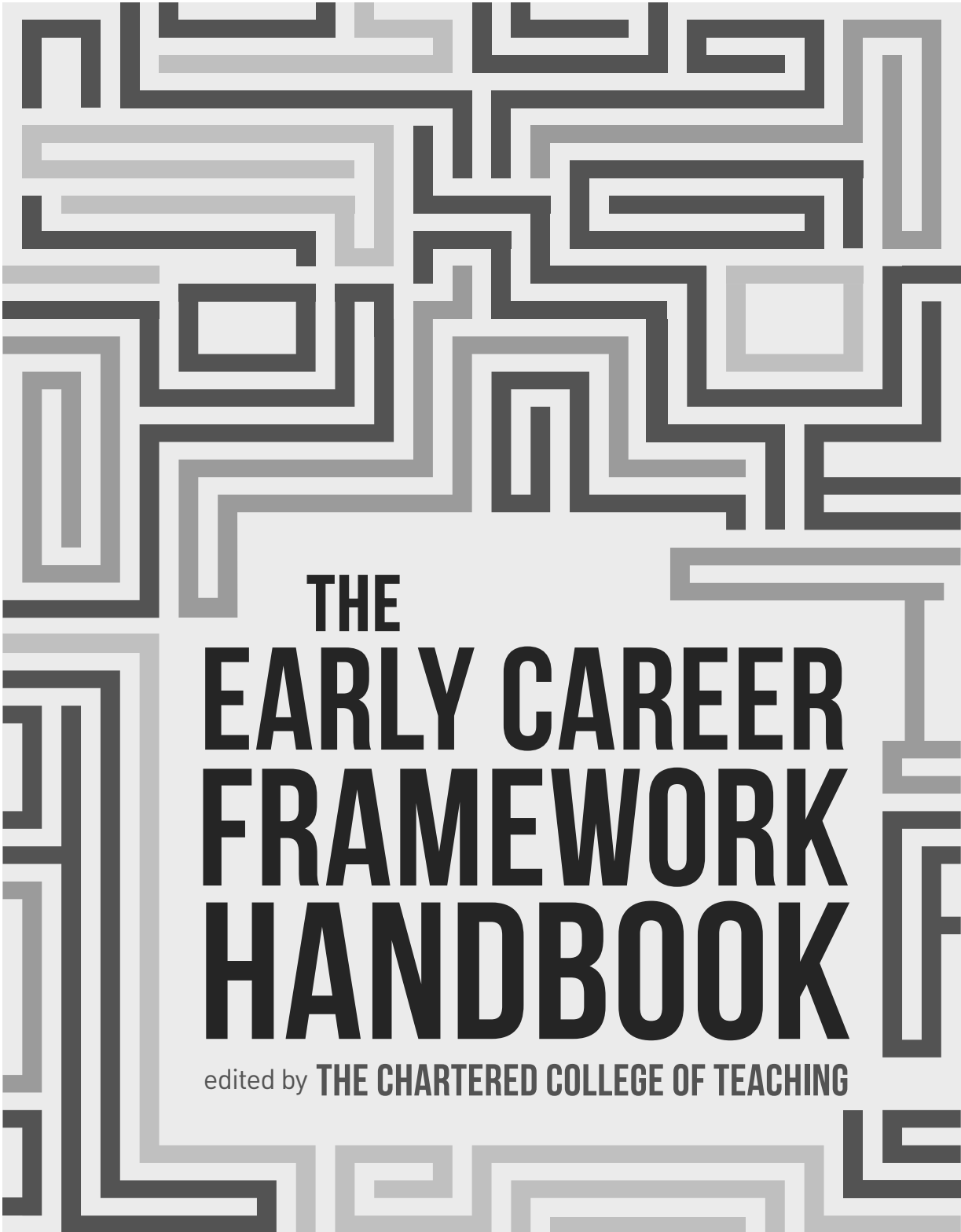


**THE
EARLY CAREER
FRAMEWORK
HANDBOOK**



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FRAMEWORK
HANDBOOK**

edited by **THE CHARTERED COLLEGE OF TEACHING**

CORWIN



A SAGE company
2455 Teller Road
Thousand Oaks, California 91320
(0800)233-9936
www.corwin.com

SAGE Publications Ltd
1 Oliver's Yard
55 City Road
London EC1Y 1SP

SAGE Publications India Pvt Ltd
B 1/I 1 Mohan Cooperative Industrial Area
Mathura Road
New Delhi 110 044

SAGE Publications Asia-Pacific Pte Ltd
3 Church Street
#10-04 Samsung Hub
Singapore 049483

Editor: Amy Thornton
Senior project editor: Chris Marke
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Exeter, Devon
Marketing Manager: Dilhara Attygalle
Cover design: Wendy Scott
Typeset by: C&M Digitals (P) Ltd, Chennai, India
Printed in the UK

© 2020 Introduction *Cat Scutt*; Chapter 1 *Amy Forrester*;
Chapter 2 *Adam Boxer*; Chapter 3 *Marc Smith*; Chapter 4 *Nick
Rose*; Chapter 5 *Nasima Riazat and Jonathan Firth*; Chapter 6
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Bokhove and Ryan Campbell*; Chapter 9 *Simon Knight
and Karen Wespieser*; Chapter 10 *Alex Quigley*; Chapter 11
Megan Dixon; Chapter 12 *Sarah Earle*; Chapter 13 *Niki Kaiser*;
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and Faye Craster*; Chapter 18 *Mark Enser*; Chapter 19 *Bukky
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First published in 2020

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Library of Congress Control Number: 2020903717

British Library Cataloguing in Publication data

A catalogue record for this book is available from the British Library

ISBN 978-1-5297-2457-8
ISBN 978-1-5297-2456-1 (pbk)

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ABOUT THE CHARTERED COLLEGE OF TEACHING

The Chartered College of Teaching is the professional body for teachers. We are working to celebrate, support and connect teachers to take pride in their profession and provide the best possible education for children and young people. We are dedicated to bridging the gap between practice and research and equipping teachers from the second they enter the classroom with the knowledge and confidence to make the best decisions for their pupils.

Through Chartered College membership, teachers have access to a wealth of research, resources and insight to enable excellent teaching. From termly issues of our award-winning journal, *Impact*, and our Chartered Teacher programme, to exclusive events and countrywide networks connecting teachers to collaborate, members have access to the tools to constantly develop their skills and teaching expertise. By bringing the profession together and giving teachers a platform for their voices to be heard and their expertise to be respected, we can raise the status of teaching together.

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INTRODUCTION

CAT SCUTT

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INTRODUCTION

Research suggests that the main reasons people choose teaching as a career are the potential to make a difference, a desire to work with children and young people, for secondary teachers in particular a love for their subject, and – importantly – a sense that they will be good at it (Menzies et al., 2014). Your motivation to become a teacher likely included some of these, as well as many other factors! And there’s no doubt that teachers do make a huge difference to the lives of the young people they work with, making teaching an incredibly rewarding career.

But with this reward comes challenge. Teaching also comes with huge responsibility, and the busy nature of the day-to-day in the classroom can mean that sometimes things we know are important can risk being sidelined – collaborating with colleagues, engaging in professional learning and taking the time to reflect. And yet it is these things that will, along with experience, ultimately help to develop your expertise, your effectiveness and your confidence and job satisfaction (Kraft and Papay, 2014). Teachers cannot be expected to leave their initial teacher training – which may last as little as a year – knowing everything there is to know about teaching and learning. Making time for continuing professional development is therefore critically important.

But given the many pressures on your time, it’s also important that you make sure you are selecting and engaging in professional learning that will actually lead to tangible impact on your practice and work with pupils. And that’s not the case for all continuing professional development (CPD). Where professional learning doesn’t work, it’s often either because its focus is not on something evidence-based that really makes a difference to student learning, or because it underestimates the power of habit and the difficulty of changing practice (Coe, 2017). While workshops, presentations and similar forms of CPD can relatively easily change your thinking and knowledge as a teacher, it’s much harder for this to actually change what teachers do in the classroom (Wiliam, 2007). Collaborative approaches, as well as approaches where coaching, mentoring and deliberate practice of skills are built in, are more likely to make a difference (Cilliers et al., 2018). Effective teacher learning opportunities also need to be underpinned by robust evidence and expertise, sustained over

time, focused on improving and evaluating pupil outcomes, include collaboration and expert challenge, and be prioritised by school leadership (DfE, 2016).

And it is these principles that underpin the Early Career Framework in order for it to make the most impact as the next step in a teacher's professional learning.

THE EARLY CAREER FRAMEWORK

The Early Career Framework (ECF) sets out a programme of support and development for new teachers that covers the two years after they complete initial teacher training. The idea was first proposed in the Department for Education's consultation on strengthening qualified teacher status (QTS) and improving career progression through a suggestion of extending the teacher induction period from a single newly qualified teacher (NQT) year to two years, as well as building greater support and development into this new two-year period (DfE, 2017). Subsequently, a group of experts – which I was privileged to be a member of – was convened to advise on its development. The ECF was released in January 2019, applying to some new teachers in three early roll-out regions from September 2020 and to all new teachers from September 2021 (DfE, 2019).

The ECF outlines the training and support that must be provided to new teachers across the two years, as well as the specific knowledge and practices that should be covered within this training. Critically, the ECF is not about adding another layer of pressure or assessment for early career teachers; it is about clearly setting out their entitlement to support and development. New teachers continue to be assessed against the Teachers' Standards, not against the content of the ECF.

In order to provide time for this training and development, new teachers undertaking the ECF receive a 10 per cent timetable reduction in their first year (the same as was previously received by NQTs on a one-year induction programme) and a 5 per cent timetable reduction in their second year. Mentors should also be provided with time to undertake training.

While all new teachers are entitled to the support and development set out in the ECF, this is provided in different ways in different schools. Some schools provide all training internally, using their own materials or openly available materials provided by ECF training organisations. Others access external provision. In all cases, however, new teachers have an entitlement to high-quality mentoring and training aligned to the ECF, and as such this handbook will be relevant both for those of you who are early career teachers yourselves (or are currently undertaking initial teacher training) and for those of you who are supporting, mentoring or providing training to early career teachers.

THE CONTENT AND APPROACH OF THE ECF AND THIS HANDBOOK

The ECF consists of eight areas, broadly aligned to the Teachers' Standards, under each of which there are a set of statements defining what new teachers should 'learn that' and 'learn how to'. The 'learn that' statements were created based on current high-quality evidence from the UK and overseas, drawing on high-quality reviews and syntheses, including meta-analyses and rigorous individual studies. The 'learn how to'

statements are designed to provide practical guidance on the skills that early career teachers should be supported to develop, and draw on both the best available educational research and additional guidance from expert sector representatives. The ECF also includes a set of references and recommended reading for each area. This handbook acts as a companion to all of this, with chapters contributed by practising teachers and researchers from a range of settings.

It is worth being clear that the ECF is designed to apply to all teachers, across a wide range of different phases, settings and subjects. As such, the content it defines is by necessity reasonably general. Since this handbook is designed for a similarly wide audience, it is naturally broad in its approach. The contributors come from a wide range of different schools and other educational settings, some of which will be similar to yours, but some of which may be very different. However, we know how important it is that learning and development are relevant to your own context. It is also important to recognise that the practical implications of an understanding of cognitive load theory, for example, may be different in music than in maths; similarly, what metacognitive strategies look like will vary substantially from early years to sixth form. You will need to supplement the ECF and this handbook with engagement in professional learning, reading and discussion that is specific to your phase, subject, setting and/or specialism. The work happening through subject associations, local school networks and hubs, research schools, and universities may all be good starting points for this.

The chapters of this book each take a different theme or topic as their starting point. These do not all directly align to one single strand or section of the ECF; our knowledge and teaching practices do not sit in isolation. Each chapter here, therefore, will contribute to your knowledge and understanding across multiple different sections of the ECF. Neither the ECF nor this handbook provide a comprehensive overview of everything you will want to learn about. Teaching is highly complex, and our understanding of how learning happens, as well as the most effective pedagogical approaches in different contexts, is growing and deepening over time through ongoing research. This means that our learning as teachers does not stop at the end of the two years of the ECF any more than it does at the end of initial teacher training. Engaging with the ECF should set you off on a career-long journey of professional learning and development – and your engagement with the text should be a jumping-off point for a whole range of reading and learning from research.

At the Chartered College of Teaching, we'll be on hand throughout to help you continue that journey. Membership of your professional body provides you with access to the latest research through our peer-reviewed journal and education research database, as well as examples of practice from classrooms across the country – in both written and video forms. You also become part of a community of teachers committed to professional learning and to sharing and developing their knowledge. In the meantime, we hope that you find this handbook both useful and thought-provoking – and we wish you all the best for your career as a teacher, the most important job there is.

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8

ADAPTING TEACHING

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INTRODUCTION

This chapter covers a lot of ground, but at its core is the idea that expert adaptive teaching can be seen as a 'guidance dilemma': when to give what amount of guidance to optimise learning. The chapter directly addresses several sections of the Early Career Framework (ECF), such as in promoting good progress (section 2), planning and teaching well-structured lessons (section 4), and adaptive teaching (section 5). Given this extensive range of sections, it would be best to see the content of this chapter as a starting point for these topics, not a complete overview; further reading is given at the end of the chapter.

CHAPTER OBJECTIVES

After reading this chapter, you will:

- understand more about the role of prior knowledge in learning, spaced practice, expertise reversal, and the voyage from being a novice towards becoming more expert;
- understand how scaffolding can support students, and how such scaffolding can be done through guidance, feedback and teaching strategies;
- receive suggestions on how using resources effectively can support learning (e.g. peer support, the use of textbooks).

THE ROLE OF PRIOR KNOWLEDGE

One of the most important variables to get right in the classroom is a teacher's judgement of what level of prior knowledge students have. On the one hand, this can be gauged by good lesson planning and a solid scheme of work in your department. On the other hand, it requires the adaptive skill set to judge student understanding and respond accordingly. This does not always have to be in a test or quiz form as one-to-one support, questioning and whole-class discussions can all usefully inform your professional judgement. We could see this critical issue as a case of determining the level of expertise your students have on any given topic and then activating that prior knowledge. This, in turn, will determine the amount and type of support you will give as a teacher. Just this short introduction has already introduced several crucial aspects: first, ensure that prior knowledge is gauged and activated – spacing, retrieval and interleaving can help here; second, what these levels mean for a student's location on his or her journal from novice to expert; and finally, how differing levels of prior knowledge mean that choosing the 'best' approach is not always as clear-cut as it seems.

SPACING, RETRIEVAL AND INTERLEAVED PRACTICE

One of the oldest and most robust effects in education, the spacing effect, is the simple but powerful idea that repeated exposures to material strengthens learning. Spaced practice and its close cousin interleaving have been studied and shown to be effective strategies across a wide variety of settings, from language learning to physical education (Bjork and Bjork, 2019). Spaced practice can often be combined with retrieval practice, the idea that going through the effort of recalling previously learnt material to mind strengthens learning. Retrieval practice has a robust evidence base, regardless of the method used with evidence of a retrieval practice effect from quizzing, short answers and use of concept maps. As well as providing variety to your lesson planning, the key point here is that it is the act of effortful retrieval that deepens learning rather than the method itself. It is important, though, that retrieval practice incorporates a range of both fact-based and more higher-order questions or prompts, even with beginner learners (Agarwal, 2019). The spacing effect does require some scheduling on the part of the teacher to ensure that course content is covered equally in subsequent lessons after initial teaching. Interleaving, or mixing practice of more than one topic within a subject domain, appears to be a particularly efficient way to organise practice, with strong evidence for the effectiveness of interleaving – if allied with corrective feedback – in the mathematics classroom (Rohrer et al., 2019).

FROM NOVICE TO EXPERT

With students retrieving and rehearsing prior knowledge, even after one lesson students' prior knowledge will have changed. Some students will be less of a novice than they were in the beginning as they will have become more expert. Such levels of expertise therefore play an important part in the learning of students. When does a student cease to be a novice, and when can we start to call them experts? This very much depends on the definition of an expert. For example, if we look at the research by Anders Ericsson, an expert is someone who has achieved true mastery of their subject and has probably spent at least ten years engaged in so-called deliberate practice (Ericsson and Pool, 2016). Some of the features of such practice are:

- it's designed specifically to improve performance;
- it can be repeated a lot;
- feedback on results is continuously available;
- it's highly demanding mentally;
- it isn't much fun.

However, the presence of those features does not necessarily mean that it is deliberate practice. Deliberate practice leads to fuller mental representations of both knowledge and skills. Another researcher who looked at experts in her research is Michelene Chi (see Chi et al., 1982). She observed that knowledge structures are more cohesive and integrated in experts, and that they can use their knowledge structure in ways that novices cannot, such as helping them learn and assimilate new concepts and make decisions about familiar concepts. Another term for such mental representations and knowledge structures is 'schemas'. We could therefore reformulate our challenge of gauging prior knowledge as what the already present schemas of students are and how they are influenced by even just teaching a lesson. Stellan Ohlsson (2011) describes how there might be five distinct types of information that might be 'available at the outset of practice: direct instructions; declarative knowledge about the task; strategies for analogous tasks; demonstrations, models and solved examples; and outcomes of unselective search' (p194).

EXPERTISE REVERSAL

One approach is to just teach the content well, regardless of students' prior knowledge. The catch is that even after one lesson on a topic, the information might not be novel any more. In addition, some subjects, such as languages and mathematics, are hierarchical: novel information *builds* on prior information. But what is the worst that could happen if a student is already relatively expert? Research into so-called aptitude–treatment interaction (ATI) demonstrates that differences in aptitude and traits can mean different effects for different instructional methods (Cronbach and Snow, 1977). More recently, ATI has also underpinned an 'expertise reversal effect' (Kalyuga et al., 2003), which emphasises the importance of providing novices with guidance, and in turn gradually removing guidance as expertise and knowledge in long-term memory (i.e. mental representations, schemas) grows. If guidance is not gradually reduced, then instructional methods suitable for beginners can backfire and even decrease learning for relative experts.

IMPLICATIONS

What can we take from all of this? If we agree that prior knowledge determines appropriate teaching strategies and we can also agree that learners might be more or less relatively expert from the outset or even after a short teaching session, there is a place for a nuanced approach to teaching strategies. As Kalyuga and Singh (2016) point out, educational debates are often presented as a dichotomy between extreme positions when the messy reality of classroom practice is more mixed. Your view on guidance and learning can incorporate a wider variety of definitions of guidance adapted to the learning goals of the activity and learner expertise. We will now consider how scaffolding and guidance can help with this.

SCAFFOLDING AND FADING

Just like Rome wasn't built in one day, this can best be done gradually, first with more support (scaffolding), and then gradually less support will be needed (fading).

SCAFFOLDING

Mainly associated with Jerome Bruner, whose theory of scaffolding emerged as part of social constructivist theory, scaffolding means any action to bridge the gap in knowledge between existing and new knowledge by a teacher or more knowledgeable peer. Bruner described the constant interaction between a teacher and a student as scaffolding: 'scaffolding consists essentially of the adult "controlling" those elements of the task that are initially beyond the learner's capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence' (Wood et al., 1976, p90).

Bruner believed that when children start to learn new concepts, they need help from teachers and other adults in the form of active support. First, learners are dependent on adult support, but as they become more independent in their thinking and acquire new skills and knowledge, the support can be gradually faded away. One particular way of 'removing scaffolding' is in the way that practice becomes less and less concrete, something especially effective with younger children. Fyfe and colleagues describe this 'Bruner-inspired' phenomenon as 'concreteness fading'. This is an approach that begins with concrete materials and gradually fades towards more abstract ones. This concreteness fading technique 'exploits the continuum from concreteness to abstractness and allows learners to initially benefit from the grounded, concrete context while still encouraging them to generalize beyond it' (Fyfe et al., 2014, p10).

FADING FEEDBACK

Another way to remove scaffolding is to decrease the amount of feedback a teacher gives. There are numerous studies which have shown that fading guidance contributes to better learning outcomes (e.g. Atkinson et al., 2003). For example, in the context of providing information through fully worked examples, a number of studies have shown that after worked solution steps were gradually removed, learners had to determine the missing steps on their own. Other studies show that fading prompts and feedback work better than continuous prompting. And as learners eventually have to 'stand on their own two feet' and become independent learners, it makes more sense to remove support gradually. The advantage of guidance begins to decrease only when learners have sufficient prior knowledge to provide 'internal' guidance. The speed of fading can even be dependent on an individual's progress by providing less feedback when a prior learning milestone has been reached. It is for this reason that 'personalisation' can also be seen as an opportunity to take into account prior knowledge.

GUIDANCE DILEMMA

How should learning environments balance information or giving and withholding guidance to achieve optimal student learning? How best to achieve this balance remains a challenging problem in instructional science.

We can call this problem the ‘guidance dilemma’ or ‘assistance dilemma’. One context in which this has been studied quite frequently is in technology support, and just like with the feedback research by Hattie and Timperley (2007), it turns out that there are many variables at play when deciding this, such as the timing and spacing of the feedback support (e.g. immediate, delayed), the detail level of the feedback guidance, the focus of the feedback (e.g. task, process, self-regulation, self), or the presentation of the feedback. The organisation of the guidance also determines the level of challenge for a learner. The assistance dilemma can be seen as being related to Bjork’s ‘desirable difficulties’ and the notion that while assisting performance during instruction can sometimes improve learning, in some cases making performance more difficult during instruction improves learning (Schmidt and Bjork, 1992). Whatever choice you make as a teacher, we would argue that rather than always relying on one strategy, you look at the context, your students, prior knowledge and the resources available, and choose your teaching strategies accordingly.

KEY QUESTIONS

- Under which circumstances might more real-world ‘authentic’ tasks help or hinder student learning?
- What are three ways you could scaffold learning in your subject area?
- How are you making sure you hit the ‘Goldilocks spot’ - not too difficult but not too easy? How will you do this for a whole class full of students?

USING RESOURCES EFFECTIVELY

At the end of the previous section, we acknowledged one variable that determines what a realistic teaching strategy is: the resources that are available. We therefore finish this chapter with some words on effective use of resources. We take a broad view of resources to include textbooks and teaching materials, but also ‘knowledgeable others’, including students’ peers.

PEER FEEDBACK

Peer feedback, using peers to give learning feedback on the work of other students, does appear to have a wealth of evidence to support its use in the classroom, with potential learning benefits for both the peer being assessed and the peer doing the assessing (Double et al., 2019). Applicable to any peer-to-peer written comments, grading, or verbal feedback, peer feedback can take a wide variety of forms, and the most effective to include in your professional toolbox are as follows:

- *Scaffolding/marking rubrics.* Despite some general criticisms of rubrics, in the context of peer assessment they do provide guidance for peer markers and limit peer markers overscoring their peers.
- *Teacher modelling.* An important way of ensuring that peer feedback is used to enhance learning is for the teacher to model how to interpret rubrics and what is high-quality feedback.

- *Online.* Online peer feedback is a potent way of streamlining the process of peer feedback and has been shown to be an effective way of using peer assessment.
- *Anonymity.* There are mixed views in the literature on whether or not peer feedback should be anonymous. With the evidence mixed, it is probably worth experimenting in your own practice to find which way or which combination of ways work for you as a developing professional.

GROUP WORK

Group work is a topic that can often generate more heat than light, with strong arguments put forward by both proposers and opposers. The evidence from the relevant literature suggests that both are correct, and that group work can have limitations and strengths. Overall, group work can be a very useful tool if certain cognitive and social boundary conditions are met (Campbell and Bokhove, 2019). Beginning with the social limitations, group work is often dismissed with phrases such as ‘free-rider’ and ‘social loafing’, describing the tendency of some group members to contribute less than they would individually and instead rely on the efforts of the rest of the group. Similarly, status issues can arise, and group members can defer to higher-status people’s ideas regardless of their merit, as well as seek to subtly undermine the best performers, who also can be guilty of lowering their own performance to fit in with the rest of the group. However, taking into account these caveats, there are also some areas where group work can provide benefits, such as reducing cognitive load by pooling working memory resources across the group, improving motivation, in-built error correction, and discussing different perspectives, which can lead to deeper learning.

So, how best to benefit from the strengths of group work while avoiding some of the limitations? First of all, both a shared goal and individual accountability are necessary (but not sufficient) preconditions to achieve successful group work (Slavin, 2010). Furthermore, the nature of the goal is crucial, and the principles of goal-setting theory apply – you should work to ensure that your students are committed to the group goal, perhaps by involving them in its formation, or at least explaining the reason for the goal. Learning goals (e.g. ‘Discover four or five different ways of doing x or y ’) rather than outcome goals (e.g. ‘Achieve an A grade’) are better for beginner learners. Lastly, it is almost certainly a good idea to establish and monitor the use of group norms.

DO NOT REINVENT THE WHEEL: EFFECTIVELY USE RESOURCES

As we discussed in the previous sections, students can be valuable learning resources for each other as long as you plan purposefully. Some of the evidence-based strategies you may wish to try are combining conceptual MCQs with peer discussion of appropriate answers, students teaching other students, and elaborative interrogation. Another useful way to support your teaching can lie in the use of textbooks. As Oates (2014) noted, ‘High quality textbooks support both teachers and pupils – they free teachers up to concentrate on refining pedagogy and developing engaging, effective learning’ (p4). This is an important nuance as textbooks can provide clear delineation of content and a coherent learning progression within the subject when allied with teacher expertise. Furthermore, textbooks can represent curriculum content, and can therefore be seen as an ‘intended curriculum’, hopefully with ‘curriculum coherence’. Well-constructed textbooks not only support teachers, but also provide support for pupils to work independently out of class. For this reason, it is advisable to not just blindly choose a textbook, but to critically evaluate before you use them, including suitable older textbooks.

As an example, textbooks from the School Mathematics Project (SMP) were deemed more mathematically coherent than a rival textbook (Hodgen et al., 2010), and textbook series from the 1960s and onwards remain worthwhile resources for teachers today.

KEY QUESTIONS

- Are there resources such as textbooks and worksheets that can help you support your lessons?
- In what way do these resources fit in the 'grander scheme' (i.e. how do they fit in the curriculum)?
- How can you make sure that peer feedback and group work enhance learning?

CONCLUSION

Many of the aspects described in this chapter have been tabulated by other researchers. Some will, for example, note similarities with popular work by Rosenshine (2010), ranging from instructional elements but also the gradual release of guidance towards independent practice. Rather than a 'whole system', it should best be seen as a set of principles derived from various sources, within which decisions ultimately have to be left to a teacher's professional judgement. This combination of evidence-informed principles and craft knowledge, in which contextual factors from schools and classrooms are taken into account, forms the most effective education. If we start to frame students' learning, notwithstanding other educational aims and outcomes, as a voyage from novice to 'more expert', we can say that the best teaching approaches are not one size fits all, but instead are flexible approaches incorporating and adapting to the prior knowledge and guidance needed to become more expert.

KEY CONCEPTS AND FURTHER READING

SPACING, RETRIEVAL AND INTERLEAVING

You can get a good idea about all three concepts in Rohrer et al. (2009).

EXPERTISE

You can read more about expertise in the work of Ericsson and Pool (2016) or Part 3 of Ohlsson (2011). With some instructional strategies, expertise reversal can take place. Kalyuga et al. (2003) is the seminal source.

SCAFFOLDING

The review article on 'concreteness fading' by Fyfe et al. (2014) is a good starting point. If you can get a hold of the Bruner references in that article, it is always informative to read what the 'classics' said.

FADING

Gradually reducing guidance, so-called fading, can be looked at in detail. Atkinson et al. (2003) is the seminal article on fading worked-out steps. The general role of feedback is covered well in Hattie and Timperley (2007).

RESOURCE USE

Teacher resources come in many forms. More on working with peers is in Double et al. (2019). Several relevant references regarding group work are in Campbell and Bokhove (2019).

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