

LEVEL 7 ASSESSMENT SPECIFICATION

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Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

Contents

Contents	i
1. Introduction	1
2. Literature Review	1
2.1 Zone of proximal development	2
2.2 Scaffolding	2
2.3 Writing frames	3
2.4 Writing processes	4
2.5 Handwriting and technology	5
2.6 Time constraints	5
2.7 Language and culture	6
2.8 Assessment for learning and peer assessment	7
3. School Policy and Practice	7
4. Methodology & Ethics	8
4.1 Research and sampling methodology	8
4.2 Risks associated with the research	10
5. Evaluation	11
5.1 Lesson 1	11
5.2 Lesson 2	12
5.3 Lesson 3	13
5.4 Lesson 4	14
5.5 Results	14
6. Conclusions	17
7. Limitations and Future Development	20
8. References	22
8.1 Primary References	22
8.2 Secondary References	27

Appendices

Appendix A	Departmental Improvement Plan
Appendix B	School 3-Year Headline Priorities
Appendix C	Worksheet starter for formal and informal registers for letter openers
Appendix D	Slides for modelling letter layout
Appendix E	Structure strip writing frame
Appendix F	Slides for modelling structure and literary devices
Appendix G	Letter planner
Appendix H	Example letters

1. Introduction

‘Possibly the greatest challenge an English teacher faces is how to get his or her pupils to write better; while the greatest dilemma is deciding how best that might be done’ – (Marshall, 2004, p. 101).

This report describes a literacy intervention for a Year 7 English class at a secondary school in South Wales. The school is in a socio-economically deprived area; is in the lower echelons of achievement in the region; and has more than the regional average of English language learners, students on the additional needs register, and students eligible for free school meals (mylocalschool, 2018; Estyn, 2015). Recent Estyn reports have praised the school for its ethos, effort and progress in raising attainment levels (Estyn, 2015).

The intervention was given to a mixed ability class of 28 students, composed of 17 girls and 11 boys. It took the form of a particular type of writing frame called a structure strip to scaffold the students in writing a formal letter about their first day at secondary school. Scaffolding, and writing frames in particular, are well-known methods of intervention that have been shown to raise outcomes (Cooper and McIntyre, 1994; Stone, 1998; Darch, 2001), as long as care is taken to assess existing understanding first, and they are not applied pre-emptively to an entire class (Van de Pol et al., 2012).

The aim of this research was to evaluate the effectiveness of structure strips as a scaffold for learning how to write a formal letter, under the general condition that lessons are taught using the principles of assessment for learning (Black et al., 2004; Wiliam et al., 2004).

2. Literature Review

The intervention activity reported in this work is a writing frame for writing a formal letter. Writing frames are a type of scaffolding designed to assist learning in carefully graded steps (Cooper and McIntyre, 1994; Stone, 1998; Darch, 2001). Central to the cognitive theory behind scaffolding is the concept of the zone of proximal development (Vygotsky, 1978, in Smagorinsky, 2018). The review starts, therefore, with an evaluation of how the zone of proximal development, scaffolding and writing frames fit into cognitive theory and intervention practice. This is followed by a review of the components of the writing process and a look at the effect of handwriting proficiency and technology on writing ability. Next, the importance of time and time constraints on knowledge retention is examined, after which

some hidden consequences of language and culture on learning are mentioned. The review concludes with a few comments relating to the role of assessment for learning in the classroom.

2.1 Zone of proximal development

Central to contemporary theoretical thinking on cognition and learning is Vygotsky's concept of the zone of proximal development, which he defined as the 'distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined under adult guidance or in collaboration with more capable peers' (1978, in Smagorinsky, 2018, p. 86). In contemporary educational contexts, the concept is used as an analogy for the dynamics linking short-term intervention strategies such as scaffolding and some measurable progress towards the acquisition of a specific skill (Allal and Ducrey, 2000).

The effectiveness of intervention strategies, according to Adey (2006), depends on the effectiveness of their teachers. Likewise, for intervention activities to be effective they must provide cognitive 'conflicts' to the student (p. 50); however, such cognitive conflicts require careful planning and management on the part of the teacher to ensure that students are kept continually in their zones of proximal development (Darch, 2001; Adey, 2006).

Accomplishing that proximity can be challenging for the teacher, especially when faced with class sizes that can equal or exceed thirty students. Adey suggests strategies such as observation and questioning, alongside appropriate levels of scaffolding to maximise the time each student engages with appropriately challenging cognitive conflict (2006). Crucially, as well-managed challenges are key, both to thinking development, and to eliciting learning responses in students' minds, teachers have to 'maintain the level of challenge for as many students in the class as possible for as long as possible', something that Adey concludes is 'not a trivial task' (2006, p. 50).

2.2 Scaffolding

Scaffolding is a metaphor for temporary help given to students that enable them to learn a new skill or complete a new type of standardised task in the form of a stylised semi-completed structure; hence the use of the term scaffolding (Stone, 1998). Once the student is able to do the task unaided, the help, or supporting structure, is no longer provided.

At a theoretical level, tasks and activities at school are the means by which students learn. Scaffolding helps them learn within their zone of proximal development; it internalises learning and keeps them in their struggle zone rather than in their panic zone (Darch, 2001; Adey, 2006). The 'essence' of scaffolding is 'sensitive, supportive intervention of a teacher in the progress of a learner who is actively involved in some specific task, but who is unable to manage the task alone' (Darch, 2001, p. 7).

According to Hoel (1997), the term scaffolding can be applied to a broad range of support strategies and interventions such as modelling structures and concepts, worksheets, instructions for activities and tasks, and even minor interventions such as teacher-talk and classroom discourse. Pea (2004), however, feels that the term scaffolding is now being overused and applied to almost every type of assistance. He makes a distinction between support mechanisms that are ‘pervasive’ and more akin to ‘distributed intelligence’ (p. 431) and scaffolding, which by an analogous definition has to have a ‘dismantling mechanism’ known as ‘fading’ that he attributes to Collins et al. (1989, in Pea, 2004, p. 431). Expanding on this concept, Tawfik et al. (2018) maintains that fading should not take place until learners have successfully managed the scaffolded task, but that for any given problem, the extent of the scaffolding and the time before fading occurs may vary according to ability with weaker learners requiring greater help for longer.

Whereas scaffolding has been shown to be an effective teaching method that provides structure to support learning and enables students to gain knowledge that would otherwise be outside their zone of proximal development, a danger of its indiscriminate use in the classroom is that it can inhibit expressiveness and prevent higher-ability students from making use of their own learning strategies. Lower-ability students, on the other hand, may not benefit from scaffolding designed for the class as a whole as the scaffolding structure may assume knowledge and skills that the lower-ability students have yet to internalise (Cooper and McIntyre, 1994; Mason et al., 2013). Scaffolding, therefore needs to be designed for the mid-point on a ‘continuum’ of abilities, so that it can be applied freely according to individual students’ needs at any point along the continuum (Cooper and McIntyre, 1994, p. 465). Clearly, this would appear to require greater sensitivity and flexibility on the part of the teacher, and for some aspects of the scaffolding to be verbal rather than written (Cooper and McIntyre, 1994).

2.3 Writing frames

A classic example of scaffolding is the provision of structures such as writing frames to help pupils develop skills in a particular genre by breaking complex writing tasks into smaller, more manageable tasks (Lewis and Wray, 2002). Writing frames, as with all scaffolding, are supposed to be temporary, but unless students manage to internalise and generalise the skills, they will not help them to become independent writers (Mason et al. 2013).

Seemingly, a characteristic of weaker writers is that they start, but do not develop their ideas, and their work is generally poorly organised. According to Fones (2001), such writers ‘clearly know what to say, but not how to express it’ (p. 22). Fones (2001) used the widely-used writing frames provided by Lewis and Wray (Lewis and Wray, 2002) but found them unsuitable for use at higher levels in secondary school. More-able students modified the frames as they progressed, but the remainder used them as is, and afterwards complained about their ‘rigidity’ (Fones, 2001, p. 22); furthermore, even though they all habitually found difficulty expressing their thoughts and ideas in writing, they did not like using the writing

frames as they felt that their teacher was using the frames to '[tell them] how to write it' (p. 23).

Yandell (2007), voicing a dissenting view of scaffolding and the generalisations inferred from their use about learners and teachers, writes that scaffolding defines learners as 'incapable' and that without scaffolding their 'first attempts [at writing] would, presumably, collapse'; teachers, however, by providing writing frames, ensure 'acceptability', 'correctness' and 'success' (p. 251). Ultimately, however, effective intervention requires skilful management of students' cognitive challenges and zones of proximal development so that measurable effects on students' learning are obtained (Adel, 2006).

2.4 Writing processes

Hayes and Flower's seminal model of the cognitive processes of writing has three distinct phases: planning, translating and reviewing. They operate both in working and long-term memory, and significantly, they interact recursively with each other, with revisions and plan changes occurring continually throughout the translation phase (1980, in Berninger et al., 1996).

The first stage of Hayes and Flower's model – the planning stage – has three distinct components: 'goal setting, idea generating, and organizing' (Berninger et al., 1996, p 24). The model postulates that the difference between novice and expert writers is the degree to which they make use of strategies to stay on track, recall memories and structure their text. Younger writers tend to be poor planners and write whatever comes to mind, as it comes to mind, in a process called 'knowledge-telling' (p. 24), in other words they plan as they write with no clear distinction between planning and translating. More skilled writers separate the two processes, retaining recalled memories until needed and only writing what is relevant to each topic in a process called 'knowledge-transforming' (p. 24).

The second stage of Hayes and Flower's model – the process of translation, in which ideas are mapped into text – also has three components: word generation, sentence generation, and discourse structure generation. Importantly, however, there is no correlation between the skills required for each of these components; all three skills need to be acquired for successful writing (Berninger et al, 1996).

In the third stage of Hayes and Flower's model – the reviewing stage – unless time is specifically allocated, or rewriting earlier drafts is a specific requirement, younger and less-skilled writers are unlikely to review their work and even then, are often unable to detect problems with their writing; however, once they are made aware of a problem they are usually able to correct it unaided (Berninger et al, 1996).

From a psychological perspective, writing competence involves implementing, coordinating and monitoring the processes involved in planning content, translating content into sentences, and reviewing what has been written (Hayes and Flower, 1980, in Fidalgo et al., 2015).

While at the simplest level, the goal of writing instruction is for students to internalise the three components, they are actually cognitively intensive processes that can only be mastered through practice (Kellogg, 2008). Once mastered, the next stage is for learners to master strategies that help maintain awareness and provide rapid access to associations, after which they need to learn how to structure text, and to use appropriate registers for effective communication to target audiences (Fidalgo et al., 2015).

2.5 Handwriting and technology

All three stages in Hayes and Flower's model of writing are cognitively intensive, involving both working memory and long-term memory. These high-level cognitive processes can be restricted if working memory is occupied with low-level activities such as spelling and the mechanics of handwriting (Berninger et al., 1996).

In this regard, Kiefer (2016) draws our attention to the fact that the ubiquity of digital technologies in the home environment means that most children's first exposure to written language is through typing on keyboards, and increasingly, through tapping and swiping on touch screens. The ease with which they can interact with these devices compared to the complexity and fine motor skills required to produce fluent and legible text is a major obstacle to motivating children to write in school. By the time children start secondary school, they are supposed to be able to write fluently; however, this is often not the case. The main causes are poor fine-motor skills, too little practice, and lack of interest (Marquardt et al., 2016; Medwell and Wray, 2017).

It appears that some consensus about a causal relationship between handwriting and attainment has been reached. Over the years, not only have Graham et al. written extensively about the strong correlation between the 'fluency and quality' of students' writing, and proficiency with 'text production skills such as handwriting and spelling' (Graham et al., 2004, p. 295; and see pp. 309-11 for a list of 27 related publications by Graham and various colleagues), but other researchers have also sought to demonstrate that measurable improvements in writing can be achieved through handwriting and spelling intervention (see for example, Berninger et al., 1997; Jones and Christensen, 1999; Roseblum et al., 2003; Medwell et al., 2009, Medwell and Wray, 2017).

2.6 Time constraints

Key to facilitating learning, according to Alton-Lee (2006), and hence to designing effective intervention strategies such as scaffolding, is an understanding of how learning works, and the role of working and long-term memory on the learning process. Learning, Alton-Lee (2006) tells us, requires that knowledge is first stored in long-term memory, and is then retrieved from long-term memory into working memory on demand. This means that teachers need to coordinate their activities with the cognitive mechanisms behind learning, which are: 'obtaining information', 'creating associative links', 'elaborating the content', 'evaluating the truth and consistency of information', and 'developing metacognitive awareness' (p. 620).

More importantly, however, is that this learning interaction between working and long-term memory has dual time constraints. It appears that not only do students have to interact with the same information or concept a minimum of three or four times, but crucially, the elapsed time between each iteration must be no more than two days. If more than two days elapses between each encounter then the information is lost from working memory, the transfer process is disrupted and no learning takes place (Alton-Lee, 2006). Apparently, significant amounts of classroom time are wasted 'because the instructional experiences do not match children's memory processes' (p. 618).

2.7 Language and culture

One of the barriers to communication and writing in the classroom is the teacher's conscious choice of words used to explain concepts and to provide instructions for activities and tasks through dialogue. Part of the teaching-learning interaction is the familiarisation and acquisition of specialised language as words may have a context- or subject-specific meaning that is very different from everyday speech (Brevik, 2014).

Most children learn to read and write at school but the language used at school, either as the mode of communication with their peers in the playground or as the language of instruction in the classroom, may not be the same as that spoken in their homes or in their community. This has an effect on their ability to learn but is most pronounced in the English classroom where (with the exception of a decade or so of historical and socio-political experimentation in the 1970s and 1980s) teaching is largely concerned with standard forms and 'correctness' (Clark, 2005, p. 33).

Students' classroom experiences can be seriously compromised through lack of engagement. Nuthall (2005) reports that cultural differences between teacher and home are a major factor in the ability of students to engage with the activities and tasks in the classroom. Whereas some students have a culturally homogenous experience in which the culture of the teacher and school is shared by the culture of friends and home, others have a different culture at home from that of their friends or teacher. Students that are 'simultaneously involved in three distinct but interacting cultural contexts' (Nuthall, 2005, p. 919) have to make more effort than their culturally-homogenous peers if they wish to succeed in the classroom simply because they do not share the same cultural backgrounds. Furthermore, even fairly subtle cultural differences can cause them to struggle to understand meaning, not necessarily because of linguistic difficulties but because of the assumptions, hidden meanings and implications inherent in the teacher's everyday speech, examples and instructional writing.

Likewise, as Baecher reminds us, 'vocabulary items are loaded with connotation that depend upon cultural knowledge and cannot be understood through a dictionary denotation' (2011, p. 68). Moreover, the lack of understanding, and hence engagement, caused by these cultural differences means that learning is diminished with respect to their peers, and over time the relative differences in knowledge stored in long-term memory manifest themselves as an attainment gap or difference in academic ability (Nuthall, 2005).

2.8 Assessment for learning and peer assessment

The role of peer assessment appears cemented in assessment for learning as it saves the teachers time and gives quicker feedback to students, gives additional exposure to the material, familiarises students with assessment criteria, and alters the negative perception of testing (Sadler, 2006). On the other hand, subjective tests appear to show that self-assessment can result in far greater attainment gains than peer-assessment (Sadler, 2006).

Sach (2010) views assessment for learning as a process grounded within the concept of zone of proximal development, and defines it as an ‘informal and continuous process, embedded in teaching and learning and conducted by teachers as an integral part of their everyday classroom work’ (p. 2). Incorporating the process into classroom behaviour, however, can be a difficult and lengthy process. Stressing just how difficult it can be in this regard, Adey (2006) warns us that if senior staff fail to demonstrate enthusiasm for learning and trialling new intervention strategies, the drive to excellence on the part of individual teachers will not be sufficient to overcome institutional inertia and move ideas forward. Likewise, both Wiliam (2018) and Black et al. (2004) concluded that even with such support, and despite decades of peer reviewed evidence, it can still take several years, starting with small groups disseminating their experience to their colleagues, before meaningful change occurs.

For learning to be effective, understanding needs to be developed and despite some recent cautionary voices (Dunn and Mulvenon, 2009) formative assessment methods are widely held to improve learning outcomes (Wiliam et al., 2004; Marshall and Drummond, 2006). This appears to preclude the use of rote testing in a formative assessment environment, as it confirms memorisation but leads to superficial learning and reinforces the negative perception of a causative link between marks and ability (Black and Wiliam, 1998; Black et al., 2004). Set against that, however, is the widely-held, converse belief, that improving external exam results necessarily precludes the use of assessment for learning in classrooms (Wiliam et al., 2004).

3. School Policy and Practice

The National Curriculum requires learners at Key Stage 3 to ‘write for a variety of purposes.’ One of the stipulated purposes is letter writing, in which learners are required to attain certain levels of proficiency and skill in both formal and informal letter writing (Curriculum for Wales, 2016, p. 23).

Responding to these requirements, the school’s most recent 3-year headline priorities (SIP, 2017; see Appendix A), calls for teachers to ‘develop teacher-pupil dialogue within the structures and procedures for formative assessment’ (p. 1) and to ‘further develop provision for peer assessment’ (p. 2). And at the departmental level (DIP, 2015; see Appendix B),

teachers have to ‘ensure skills in written accuracy ... are regularly addressed’ (p. 3), and they have to ‘Develop resources to improve writing outcomes, including use of structure strips’ (p. 4). These requirements can be thought of as three interdependent threads that can be woven into lessons: (i) formative assessment (assessment for learning), (ii) peer assessment and (iii) improved writing using structure strips (scaffolding).

All three of these threads have been the subject of extensive research and a rich canon of literature exists that explores them from many angles. Some of the literature most pertinent to this study has been summarised in more detail in Section 2 of this report, but of particular relevance here are: (i) Wiliam et al. (2004) and Marshall and Drummond’s (2006) observations that formative assessment methods improve learning outcomes; (ii) Sadler (2006) and Chong’s (2017) conclusions that giving students the opportunity to assess their own or their peers’ work can increase engagement as well as attainment levels by actively involving them in the assessment process; and (iii) Tawfik et al.’s. (2018) assertion that the three main questions about scaffolding are identifying which students need scaffolding, when and for how long they might need it, and what type of scaffolding they require.

Donaldson, writing about good teaching and learning, mentions the power of scaffolding, modelling and feedback to create active learning contexts ‘within which learners can demonstrate the ability to apply learning independently in unfamiliar settings’ (2015, p. 65). His sentiments echo those of Marshal (2004) who defined the ‘best’ English lessons as those that ‘promote thinking’ and ‘extend understanding’; have meaningful interactions, feedback sessions, and peer assessment; that dynamically change or abandon plans to promote progress; and that model against exam criteria (p. 112).

Both Marshal (2004) and Donaldson’s (2015) work were influential in guiding the weaving of the three school and departmental threads into the assigned task, while maintaining the awareness that to attain the levels of proficiency and skill required by the curriculum (Curriculum for Wales, 2016, p.29), the Year 7 students, in addition to mastering ‘knowledge of the content topic and knowledge of how the tasks are to be accomplished’, might almost certainly have to master the requisite ‘knowledge of English’ as well (Baecher, 2011, p. 64).

4. Methodology and Ethics

4.1 Research and sampling methodology

Broadly speaking, research is concerned with either numbers or reasons. Quantitative research deals mainly with numbers. How tall are people? How many people like marmite? It requires large quantities of data, usually from identical well structured, closed-question, questionnaires and it produces statistically valid answers that can be generalised and

extrapolated; but it cannot provide reasons for its findings (Marshall, 1996; Brewis, 2014). Qualitative research on the other hand, uses subjective data to provide subjective answers. Data can be collected in many dissimilar ways, often in open-ended questionnaires and interviews, sample sizes can be small and analysis is less rigorous; its strength however, is that it provides insights into why people think, act or feel a certain way (Walliman, 2001; Brown, 2004).

It is not usually possible to obtain data from every individual in a population, therefore data from smaller representative samples can be selected and subjected to statistical analysis (Marshall, 1996). Relationships between samples and larger populations make it possible to extrapolate results obtained from sample data to larger populations; however, it is necessary that population and sample sizes are sufficiently large for statistical analysis to be valid (Walliman, 2001). The best way to select a representative sample is through random sampling, in such a way that every person has an equal chance of being chosen, and it must be impossible to predict who would be in the sample beforehand. Random sampling can be used for both quantitative and qualitative research (Walliman, 2001; Brown, 2004).

Alternatively, non-random sampling can also be used in statistical analysis. As the name suggests, subjects are not selected using any underlying random process (Walliman, 2001). Statistical analysis of the data obtained cannot be used to generalise findings from samples to larger populations as relationships between samples and populations are unknown (Etikan, 2016); it can, however, provide insights into research questions. Non-random sampling, therefore, can only be used for qualitative research (Walliman, 2001; Brown, 2004).

Since this research project is an investigation into a single writing intervention for a class of fewer than thirty students, the number of available subjects and the quantity material they might produce is clearly limited. Seemingly, then, to get a reasonable quantity of data, all students in the class (or as many as possible) would have to participate, something that does not appear to be a random process. Taking these factors into consideration, qualitative research using convenience sampling appeared to be the methodology of choice.

Convenience sampling is arguably the least rigorous sampling technique as it has no underlying probability-based selection method and relies instead on the availability of individual subjects (Marshall, 1996). As its name suggests, convenience sampling simply means that the subjects selected in the sample were easy to find; however, it also has the requirements that the sample is truly representative of the population, and that easy access to the sample combined with an inability to select from a wider population are known constraints (Koerber and McMichael, 2008). Because there is no way to measure or control variability and bias (Acharya, 2013), the findings from convenience sampling have no scientific validity; however, they have been shown to offer useful insights into research questions (Farrokhi, 2012), which in the case of this research, is the utility or otherwise of the chosen intervention.

As this research met all the requirements and constraints of convenience sampling, the participants were selected from a pool of 28 students from a Year 7 class at the selected school who had previously been identified as deficient in the organisational and structural writing skills required to raise their English writing level from Level 4 to Level 5. All 28 students agreed to take part in the research.

4.2 Risks associated with the research

Clearly, using convenience sampling in a classroom setting such as this, carried the risk that participants may have felt under pressure to take part in the research due to the power imbalance between teacher and student (Walliman, 2001). Due to this concern, every effort was made to minimise the risk by explaining the informed consent process (assent as participants are under 18) to the participants, so that they thoroughly understood that there would be no impact on their progress or attainment, whether or not they took part in the research. Following the concerns in Walliman (2001), all participants were made well aware that they had the right to opt out or withdraw from the research at any point simply by letting the researcher know that they wanted to withdraw; their data would not then be included in the analysis or write up of the research. However, the reality of the sequence of lessons within the overall requirements of the English curriculum, meant that all the students in the class had to attend the lessons and complete the activities anyway; participation in the study was therefore limited to giving consent for their work to be included in the data analysis.

Another potential risk in this research was a possible conflict of interest. Because the researcher was not in a neutral position, it was felt that the dual role of researcher and class teacher might engender feelings of anxiety due to expectations of repercussions (Walliman, 2001). The risk was minimised by explaining to participants that no repercussions would arise from any part of the research, thereby reducing the possible risk of anxiety.

Not keeping the data confidential, or not handling or storing the data properly and in accordance with data protection requirement could have caused a data protection risk (Walliman, 2001). However, the researcher followed university guidance and data protection procedures to limit any adverse effects to outcomes of the research activity. In addition, the risk was minimised by encrypting the data and storing it on a password-protected memory stick in accordance with the Data Protection Act, BERA and the University Data Management Guidelines. Consequently, all data were treated confidentially and were made anonymous prior to the analysis and write up. Furthermore, all participants were made aware of this, and that the research data would be kept confidential and would only be made accessible to the participants, their usual class teacher and the researcher. Moreover, to facilitate discussion of the data and research findings while ensuring confidentiality of the participants, their work was identified electronically using alphabetical pseudonyms such as Pupil A, Pupil B, etc. (Walliman, 2001). The result of these actions, therefore, was that participants were made anonymous in the writeup of the research, and their identities were only known to the researcher.

5. Evaluation

The unit of four lessons had the following overall structure, organised according to the ideas outlined in Chappuis and Stiggins (2002), to fulfil the requirements of assessment for learning.

Lesson 1: Pre-test for formative assessment

Lesson 2: Modelling and interactive dialogue

Lesson 3: Draft letters with structure strips followed by peer assessment

Lesson 4: Post-writing

5.1 Lesson 1

The start of the letter-writing unit was delayed as the students had to finish off an unrelated task during the first half of the lesson; this added an unexpected time constraint.

The first activity in the unit was a pre-test exercise in which the students were asked to write a formal letter to their primary school telling them about their first day at secondary school. The activity was not to certify competence or award a mark, as Black et al. (2004) stressed that the primary purpose of pre-test exercises in formative assessment, should be to provide information so that planned teaching and learning activities could be modified if required.

Instructions and success criteria (Table 1) for the pre-test exercise were given verbally, and in addition, were displayed prominently in writing on the whiteboard; this followed Ball's (1997) warning that unclear assessment criteria, compounded by vague instructions, could prove detrimental to the acquisition of writing proficiency and could affect all students in a classroom.

Table 1: Instructions and success criteria for the formal letter writing task.

Instructions	Success criteria
Write a formal letter to your primary school telling them about your first day at secondary school. Remember to make your writing more interesting by varying sentence structure and using literary devices.	Correct layout Clear introduction Formal tone Varied sentences Range of techniques Ambitious vocabulary Accurate sentences

During the activity, I circulated, and observed how the students approached the writing task, and how they structured their letters. I collected the work at the end of the lesson, and making judicious allowance for the shortened lesson, levelled it using the specification of the National Curriculum (Curriculum for Wales, 2016, p. 29). The results are summarised in Table 2.

5.2 Lesson 2

The second lesson started with a quick worksheet to introduce the idea of formal and informal ways to start a letter (Appendix C). This was followed by a lively dialogue with the students about various types of letter writing styles and conventions.

In view of the previous day's shortened lesson, I had a heightened awareness of the amount of material we had to cover and the limited time in which to do so. My worry about time constraints, perhaps exacerbated by Sadler's warning that there is 'simply not the time' to use formative assessment techniques in a typical customised unit of work requiring submission, assessment, reworking to proficiency, and resubmission (1989, p. 142), meant that I approached this part of the lesson with some trepidation.

Serendipitously perhaps, a recent professional development session about implementing assessment for learning in the classroom, concerned the importance of slowing down the speed of concept checking by waiting longer for student responses. In this regard, Black et al. (2004) reported research findings indicating that teachers tend to wait for a second or less after asking a question; if no answer is immediately forthcoming, they move on, either by asking another question or by answering the question themselves. I have certainly been guilty of this, as consciousness of silence and the accompanying sea of blank faces that sometimes follow a question, has prompted me to ask fairly rapid follow-on questions. Black et al., however, maintained that increasing 'wait time' creates more meaningful dialogue by allowing students time to formulate replies and become involved in the discussion (2004, p. 11).

In view of this, and my initial trepidation notwithstanding, I determined to persevere with increased personal wait times, and after some initial hesitation on the part of the class, who also appeared unaccustomed to this style of questioning, even the habitually unresponsive students felt enabled to participate. I believe this to be a positive validation of the approach, especially considering that students in their introductory years at secondary school exhibit the least interest and worst attitudes to writing, and require the highest quality writing intervention (Hodges et al., 2019).

After eliciting responses about formal and informal registers, I modelled the layout of a formal letter using PowerPoint slides (Appendix D) that I had prepared prior to starting the unit, and continuing with the use of appropriately lengthened 'wait times' (Black et al., 2004, p. 11), discussed them with the class.

Admittedly, the use of presentation technologies in the classroom has been the subject of some criticism. Beauchamp and Kennewell (2010) for example, wrote that although classroom technologies increased the rate of teacher-student interactions, they were ‘relatively superficial’ and did not necessarily improve outcomes, as they revolved around teacher talk and brief responses, and failed to produce ‘sustained interactions’ (p. 759).

Despite this, I felt their reservations should be balanced against Baek et al.’s findings that PowerPoint, properly used for modelling and scaffolding, can be an effective tool to enhance learning, as it can ‘facilitate active learning and higher-order thinking’ when used as a means of instruction or to encourage self-expression (2008, p. 233). As our modelling session progressed, however, the additional dialogue triggered by the increased ‘wait times’ (Black et al., 2004, p. 11) appeared to negate Beauchamp and Kennewell’s (2010) concerns about limited interaction.

After modelling the layout of the letter, the students were given the structure strips to scaffold their writing (Appendix E) and told to paste them in the margins of their exercise books. I then used a second set of PowerPoint slides (Appendix F) to model paragraph structures and literary devices. The idea was to provide them with examples of literary devices in context, as well as to demonstrate standard forms and conventions of writing. This is what Graham and Harris call the ‘environmental’ approach to learning how to communicate more effectively in writing (1994, p. 286), or what Ball refers to as the ‘skills-orientated’ approach to acquiring useful and transferable knowledge (1997, p. 170).

5.3 Lesson 3

Fortunately, the third lesson in the unit took place just two days after the second lesson, and wasn’t scheduled for the following week. This was particularly important in view of Alton-Lee’s (2006) findings that if a topic is spread over several lessons, an unintended side-effect may be that sufficient time will have elapsed for the material to be forgotten; ideally, gaps between sessions should last no longer than two days (Alton-Lee, 2006). Since the second lesson was the lesson in which most discussion and teaching took place, and in which all the modelling and new concepts were introduced, the two-day gap meant most students should have retained the information within their working memory.

Prior to writing, students were given a planning sheet (Appendix G) to help them plan their letters. They were then asked to draft a letter to their primary school. When the allotted time for writing the drafts was up, I asked the students to peer-assess their work in order to capitalise on its many known benefits. According to Sadler (2006) for example, peer assessment increases engagement by actively involving learners in the assessment process. Hovardas (2014) goes further, and says that it improves learners critical-thinking and problem-solving skills, and increases their motivation and auto-didactic levels. Peer assessment is well established throughout the school, so the students were familiar with the process, and as Chong (2017) observed, it facilitates learning by giving them the opportunity

to look at their own writing differently, and it gives teachers the opportunity to adapt or change lessons.

During the lesson, I noticed three of the more-able girls were not using the writing frames in their drafts; however, improved layout and their use of a more formal register clearly showed that they had benefited from the previous day's modelling and feedback. Each expressed the desire to write differently from the structure imposed by the strips. This is consistent with the observations by Fones (2001), who noted that more-able students tended to modify writing frames because they did not like to be told what to write.

5.4 Lesson 4

In this lesson, students reworked their drafts to produce a final letter. I kept the draft and rework sessions separate, as Chanquoy (2001) found that younger learners were more likely to make meaningful changes to their work if transcription and review take place in separate lessons.

In contrast to the first lesson, all learners were engaged in their writing. During circulation, I noticed that most students were using the skills we had discussed in class to guide their writing, and their paragraphs were grouped according to the suggestions in the structure strip. By this stage, most of the more-able students had abandoned the structure strips as they said they could write without them; I encouraged this practice so as to not 'stifle' their creativity (Fones, 2001, p. 30), however, the less-able students continued to use them. This, of course, is consistent with Tawfik et al.'s (2018) observation that for any given problem weaker learners may require greater help for longer. I also noticed that most students were making some effort to improve their writing by replacing words during rework; however, consistent with Graham et al.'s (2004) observations, the less-able students spent very little time reviewing their work and resisted suggestions to rewrite or rephrase parts of their letters, instead, they limited their revisions to correcting minor mistakes and exchanging the occasional word for another.

At the end of the lesson, I collected the work for marking and levelling against the National Curriculum specification. The results are summarised in Table 2.

5.5 Results

Table 2, below, shows a subjective summary of the results. Each row shows a letter writing competency, its associated interventions and activities, and a general 'before' and 'after' evaluation. The columns group students according to ability: 12 students were considered less able, 5 students able, and 11 students more able. As the first row shows, by the end of the intervention, all students had increased their formal letter-writing skills by one level.

Taking the remaining rows in turn:

Layout: Interestingly, although they had some basic knowledge of the conventions of letter writing before the intervention, students didn't know how to lay out a letter. Speculatively, this may be due to the ubiquity of digital technologies and communication methods such as email and instant messaging in home environments (Kiefer, 2016); however, all students laid out their letters according to the layout model (Appendix D) after the intervention.

Structure: Van de Pol et al. (2012) assert that scaffolding should not be applied pre-emptively to an entire class, instead, before scaffolding is provided, their existing understanding and ability to complete a task should be assessed. Based on this, and on the absence of paragraphs and structure in their pre-test writing, I decided all students in the class should use the structure strips, not just the less-able. After intervention, all ability groups managed to organise their work into paragraphs, with most doing so according to the structure strips (Appendix E) they had pasted into their books.

Register: Before intervention, all students used a conventional formal greeting ('Dear ...') (See Appendix H) but the remainder of their letters were either informal or mostly informal. The degree to which they wrote more formally after the intervention appeared to correspond to ability, with the less-able students continuing informally, the able students mixing formal and informal registers, and the more-able students managing to maintain a formal register most of the time. The letters suggested that most of the students were unfamiliar with the basics of formal language, not just with conventions, such as the distinction between sincerely and faithfully when closing a letter, but with the apparent unawareness that there were 'correct' alternatives (Marshall, 2004, p. 104) to their ubiquitous use of contractions and slang (e.g., 'don't stress', 'me and the girls', 'BFF') (Appendix H). However, this finding was not surprising, as not only does it take time to learn appropriate registers for effective communication to a target audience (Fidalgo et al., 2015), but there is compelling evidence that preferential use of less-conventional over more-conventional modes of speech in writing is often the result of a disconnect between differing home and school cultures (Nuthall, 2005; Clark, 2005; Brevik, 2014; Topping and Trickey, 2014); something that may perhaps be evidenced by the socio-economic intake of the school (Estyn, 2015).

Literary devices and vocabulary: None of the students used literary devices or ambitious vocabulary in the pre-test despite clear success criteria (Table 1). In the post-test, however, following Black et al.'s recommendations, students were encouraged to 'keep in mind the aims of their work' through 'transparent' success criteria (2004, p. 15). Arguably, one possible consequence of this, was that the less-able and able students appeared to follow the suggestions provided on the structure strips (Appendix E), about which literary devices to use in which paragraphs, as though they were instructions, and some of their attempts appeared forced ('a very good, funny and quick cooking teacher', 'Life is good isn't it?': see Appendix H), almost as though they were deliberate attempts to comply with the success criteria, rather than for any conscious literary merit. On the other hand, the more-able students seemed to have used their own judgement (Fones, 2001) about which device to use where, and appeared to be guided more by the success criteria and the examples in the modelling sessions (Black et al., 2004) than the structure strips.

Table 2: Subjective summary of writing task results.

	Intervention	Less Able (12 Students)		Able (5 Students)		More Able (11 Students)	
		Before Intervention	After Intervention	Before Intervention	After Intervention	Before Intervention	After Intervention
Level		3	4	4	5	5	6
Layout	Layout model	Not recognisable as a letter, formal or otherwise	Formal letter layout	Not recognisable as a letter, formal or otherwise	Formal letter layout	Not recognisable as a letter, formal or otherwise	Formal letter layout
Structure	Planner Structure strip model Structure strip	Insufficient to evaluate	Writing organised into paragraphs Introduction, main body and conclusion present	Single paragraph with no internal structure	Writing organised into paragraphs Introduction, main body and conclusion present	Single paragraph with no internal structure	Writing organised into paragraphs Introduction, main body and conclusion present
Register	Worksheet Peer assessment Rework	Formal opening Remainder informal	Formal opening Remainder informal	Formal opening Remainder mostly informal	Formal opening Remainder partially formal, partially informal	Formal opening Remainder mostly informal	Formal opening Remainder mostly formal
Literary devices Vocabulary	Structure strip model Peer assessment Rework	None included	Some literary devices included for success criteria	None included	Literary devices included for success criteria, some to good effect	Not included	Literary devices included to good effect
Knowledge telling Knowledge transforming	Planner Model Peer assessment Rework	Insufficient to evaluate	Mostly off topic Knowledge telling	Some knowledge telling, others insufficient to evaluate	Some on topic, some off topic Knowledge telling	Knowledge telling	Knowledge planners on topic Others mixed telling and planning and mixed on/off topic

Knowledge telling/transforming: Knowledge-telling appeared to be the only writing strategy evident in the pre-test exercise, and it also appeared to be the dominant strategy used after the intervention by the less-able and able students. Apparently, inexperienced writers follow an unvoiced ‘what next?’ prompt in their writing as they can’t see beyond their immediate idea (Holdich and Chung, 2003, p. 637), and if they can’t think of anything interesting to write, they ‘just ramble on’ until they run out of ideas (Alexander and Currie, 1998, p. 36). In contrast, however, the more-able students seemed to use knowledge-transforming most of the time, with the occasional off-topic sentence evidencing a possible stray into knowledge-telling.

6. Conclusions

The study attempted to examine the utility of structure strips – a type of writing frame – on the skill and productivity of a class of mixed ability Year 7 students. The results showed that all students made gains in all measured categories (success criteria) and all progressed in level, with the less-able students progressing, on average, from level 3 to level 4; the able students from level 4 to level 5; and the more-able students progressing from level 5 to level 6. On paper, therefore, the intervention exercise was a success. Every student in the class showed an improvement in formal letter writing skills; however, whether the structure strip per se was responsible for the improvements, whether some other aspect of the lessons played a pivotal role, or indeed, whether any other type of intervention would have had the same or similar effect is uncertain.

In this particular study, there were, arguably, four distinct factors at play in the intervention: extended ‘wait time’ during elicitation (Black et al., 2004, p. 11); modelling layout, concepts and knowledge using PowerPoint slides; structure strips providing paragraph content and prompts; and peer assessment for editing and reworking the letters.

With hindsight, it seems reasonable to assume that all four factors contributed to the improvements, not just those the study sought to investigate. However, although at the planning stage of this study, the term ‘scaffolding’ was thought to refer to structure strips, according to Hoel (1997), the term can be applied to a broad range of support strategies and interventions, including modelling structures and concepts, worksheets, instructions for activities and tasks, and even minor interventions such as teacher-talk and classroom discourse (p. 6).

As required, the lessons successfully incorporated the principles of assessment for learning. This is a core part of school policy and departmental practice, and has the support of the headteacher, all department heads, and all senior members of staff (Mentor, 2019). Involvement across the board at such a high level in the school is considered essential for

embedding the practice of assessment for learning into school culture and practice (Hill, 2011).

Since the purpose of writing frames is to scaffold the writing of less-able students, by breaking complex writing tasks into smaller, more manageable tasks (Mason et al. 2013), the structure strips appeared to fulfil the role effectively as they helped students of all abilities to lay out their work in paragraphs. Before using the strips, none were using paragraphs correctly and afterwards they all were. The strips also appeared to help students include literary devices in their writing, with the less-able students taking the suggestions in the structure strips as requirements and the more-able using them as overall reminders. The structure strips, therefore, seemed to have been an effective method of providing structure to support learning and enabling students of all levels to gain knowledge that would otherwise have been outside their zone of proximal development (Cooper and McIntyre, 1994).

The less-able and more-able students' reliance on the structure strips did not appear to be uniform, with the less-able students clearly more reliant on the strips than the more-able students, who stopped using them because they found them restrictive. Cooper and McIntyre (1994) warn against the indiscriminate use of scaffolding in the classroom in case they prevent higher-ability students from developing their own learning strategies, or they assume knowledge and skills that lower-ability students have yet to internalise.

The recommended ideal, according to Cooper and McIntyre, is to design scaffolding along a 'continuum' of abilities so that it can be applied to the needs of any student (1994, p. 638). If Hoel's (1997, p. 6) broader definition of 'scaffolding' is used, it can be seen that the letter-writing structure strips were designed correctly for the 'midpoint' along the 'continuum', with less-able students receiving differentiated scaffolding in the form of judicious verbal support, and more-able students feeling free to discard the strips at various points during the exercise (Cooper and McIntyre, 1994, p. 638). The sequence of lessons meant that the strips were not merely 'a gap-filling exercise which prompts little thought or discussion' (Marshall, 2004, p. 104), and by encouraging the more-able students to write without them, I ensured they were not a cause of 'restrictive blocking' and they did not 'stifle' their creativity (Fones, 2001, p. 30).

Although the writing exercise appeared to be a success according to the convention of achieving an across-the-board attainment rise, the end of the exercise brought with it an apparent assumption that the writing skills had been internalised. Although by definition, scaffolding it meant to be temporary, only the more-able students had dispensed with the scaffolding before the end of the last lesson in the unit. When scaffolding is used, there is supposed to be a 'dismantling mechanism' known as 'fading' to lead to independence (Collins et al., 1989, in Pea, 2004, p. 431), that should not take place until learners have successfully managed the scaffolded task (Tawfik et al., 2018), but the time constraints of the writing exercise did not allow progress to the point where every student was writing independently. This raises the possibility that students who were still using the scaffolding, will not have internalised and generalised the skills, and will not therefore, become

independent writers (Mason et al. 2013). It would be useful, therefore, both for the students and for curriculum planning, to test the students at a later, not too distant time, to determine whether the conventions of formal letter writing have been internalised; if not, then future lessons using scaffolding should be planned around Collins et al.'s concept of 'fading' (1989, in Pea, 2004, p. 431).

From the start of the first lesson to the end of the last lesson, the students were unanimous in their (loudly vocalised) opinion that the topic 'sucked'. This appeared to be why most of the less-able students either could not, or would not, write anything to start with. Graham et al. (2004) suggested that setting topics of interest to the students, in preference to topics set in policy documents and curriculum requirements, would help less-able students improve their writing skills. This appears axiomatic and worth investigating.

There appeared to be a subjectively strong correlation between productivity and handwriting in the letters written, with the neatest handwriting being associated with the most productive writing in terms of lines on paper, and the poorest penmanship with the fewest lines. The same correlation appeared to hold true for other aspects of the letters such as spelling, capitalisation and punctuation, as well as with the clear distinction between knowledge-transforming and knowledge-telling.

These observations are consistent with findings by Graham et al. (2004) who identified three reasons why less-able students fail to write as well as their more-able peers: they do not care or do not know much about the topic, they stop writing early because their initial stream of ideas is exhausted and they do not possess strategies to access further ideas, and the mechanics of the writing process simply overload their cognitive memory. Poor fine-motor skills, too little practice, and lack of interest are cited as the main reasons why many students do not master handwriting at junior school (Marquardt et al., 2016; Medwell and Wray, 2017). Clearly, by Year 7, all students should be fluent writers; it would be interesting, and beneficial, therefore, to investigate whether handwriting practice might lead to improved writing skills in activities such as this formal letter-writing task.

The attainment levels appear to be disproportionately distributed, with over twice as many less-able (12) and more-able (11) students in each group, as in the able student group (5). This was not foreseen, and as the topic of the study was the utility of structure strips, the underlying reasons for the distribution were not analysed. Statistically, however, there are more than the regional average of English language learners, students on the additional needs register, and students eligible for free school meals in the school (mylocalschool, 2018; Estyn, 2015). Speculatively, or perhaps prejudicially, this might account for the skew to lower ability (Hattie, 2003; Joseph Rowntree Foundation, 2018; Cymru, 2019). Perhaps data such as these should be a required part of future analyses.

To summarise: Overall, in face of the activity's topic being universally disliked, the structure strips proved an effective method of helping students produce a formally written letter with accepted conventions and structures. The strips were pitched at the mid-point of a continuum

of needs, with less-able students requiring additional verbal support and more-able students dispensing with the strips when needed. All students raised their attainment by a full level.

The study raised the concern of whether effective fading of the scaffolding had occurred for the less-able students to discontinue the activity. It also raised the question of whether socio-economic data should be considered in school-based research as a matter of course.

Finally, the study raised two interesting avenues for further research: the first is whether more motivating or thought-provoking topics would help less-able students improve their writing skills, and the second is whether regular handwriting practice might lead to improved writing skills.

7. Limitations and Future Development

Overall, I feel that three main factors limited the effectiveness of the study. These were: (i) The need to produce a set piece of writing within a certain timeframe meant that there was insufficient time to understand the less-able writers and devise better ways to help them. (ii) Too much time was lost in unproductive tasks and talk. (iii) Poor language skills and limited vocabulary hindered expression. Arguably, upon further reflection, additional limitations might be exposed; at present however, these particular limitations cause me the greatest concern, and I feel they could provide valuable opportunities for professional development.

Considering each limitation in turn:

(i) The need to produce a set piece of writing within a certain timeframe meant that there was insufficient time to understand the less-able writers and devise better ways to help them.

Without hesitation, I feel this was the main limitation of the study, or more specifically perhaps, of my implementation of the study. Ideally, less emphasis (or concern) should have been placed on the department's schedule of fulfilling curriculum requirements and more on understanding individual student needs so that effective learning, rather than production for accountability purposes, was promoted.

As Myhill points out, there is a danger of falling into the pedagogic trap of 'ensuring that work is done, and seen to be done' within the time constraints of a lesson (1999, p. 70), yet Black and Wiliam assert that the starting point for learning is for teachers to ask themselves the question "Do I really know enough about the understanding of my pupils to be able to help each of them?" (2010, p. 87). The question and the warning appear to pull in opposite directions, but I feel the answer may lie in the simply worded principle outlined by Sadler (1989) who wrote that learners should compare the '*standard*' they should be aiming for with

their ‘*actual level of performance*’, and should then try to close the skill or knowledge gap with appropriate ‘*action*’ (emphasis Sadler, p. 121)).

At this stage in my nascent teaching career, these three sets of advice could almost form the red sides of a warning triangle surrounding the white space of targeted skills and knowledge gaps: Ascertain understanding. Take appropriate action. Avoid fruitless activities.

Whilst taking appropriate action may be akin to craftsmanship, and avoiding fruitless activities may almost certainly have record keeping and accountability consequences, I believe ascertaining understanding may be key to successful learning. However, the understanding required surely goes beyond the concept of the five cognitive mechanisms of learning (Alton-Lee, 2006). Rather, it seems to imply a more personal connection, one that is able to bridge the cultural, linguistic and class differences between student and teacher that appear to inhibit learning (Brevik, 2004; Nuthall, 2005). Asking ourselves the question, “Do I really know enough about the understanding of my pupils to be able to help each of them?” (Black and Wiliam, 2010, p. 87), is surely very important, so understanding how to turn an answer of “Not really” into a qualified “Yes”, could be a very ‘fruitful’ activity for professional development.

(ii) Too much time was lost in unproductive tasks and talk.

I believe a second limitation of the study, given my constant awareness of every lost minute amid the time constraints of the lessons, was time management; in other words, the study yielded no information on how to teach the topic to the greatest effect in the shortest time. Walberg et al. defined three types of classroom time: ‘allocated time,’ which is the time assigned by the department or curricula for learning a particular skill or knowledge set; ‘engaged time,’ which is the time students actually spend on task, whether or not they are actually engaged in the true sense of the word; and ‘productive time’ (being the time that teachers strive for), which is the ‘proportion of engaged time in which the student is really learning with high success’ (1994, in Saloviita, 2013, p. 167). Professional development on how to upgrade ‘engaged time’ to ‘productive time’ could facilitate more effective teaching within the constraints of ‘allocated time’.

(iii) Poor language skills and limited vocabulary hindered expression.

The third limitation of the study concerns language as the students’ work appeared to give every indication that their general command of academic language was negligible, and their linguistic breadth woefully inadequate for the purposes of expressive writing at KS3 level. The intervention was not designed to improve their language, which I feel was a lost opportunity as the effective use of varied vocabulary that is ‘adventurous’ and ‘imaginative’ is a deciding factor in assessing Key Stage 3 levels (Curriculum for Wales, 2016, p. 29). As learning depends on dialogue between students (Brevik, 2004), surely one of the tasks for the teacher is to change classroom behaviour through encouraging students to incorporate more eloquent and specialised language into their discussions; however, this is something that,

according to Topping and Trickey (2014), is ‘not straightforward or easy’ (p. 70). Professional development on ways continually to introduce new language and encourage its use, outside of specific language activities narrowly designed for the purpose, could enable verbal, and subsequently written, expressive fluency.

8. References

8.1 Primary References

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8.2 Secondary Refences

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