

A critical evaluation, and the identification of next teaching and learning steps, focusing on a case study of an individual learner or a group of learners, based on an observed critical incident.

Introduction

Critical incidents afford classroom practitioners the opportunity to critically reflect upon practices by way of unpicking events and actions to allow the implicit to become explicit. Whilst the term 'critical' may suggest an event of some magnitude, Tripp (1993, p.8) explains that it is the decision to reflect upon the event that makes it critical. In this way, the principle applies that we can read any mundane event in a critical manner and this action sees it become a critical incident. One must however be mindful of not just describing the event but also critiquing it; that is, to ask 'why' the event unfurled (ibid). Critical incidents can then lead researchers down a path of bringing to light weaknesses in own practice and provide a chance to identify next learning steps.

Drawing upon the notion that a capability to reflect is crucial to the teaching practitioner's development (British Educational Research Association, 2014, p.20; Welsh Government, 2019), this paper is the result of the identification of three critical incidents, detailing a critical literature review linked to one of them, a period of reflection, and the realisation of next teaching and learning steps.

The role of critical reflection

Tripp's Critical Incident Methodology (1993) is one such example of reflective practice. The methodology focuses on events encountered first-hand, which act as starting points to research. Whilst there are other models of reflective practice, a shared theme is that learning occurs when time is given to reflect upon experiences. Within the classroom setting, this might see reflection upon the pedagogy used, the learning content and the learners experience. The time of reflection itself has also been explored, with opportunities to not only reflect on action, that is, to look back on your actions, but also reflection in action, whereby intuition and instincts prevail during immediate decision making (Schön, 1987).

A further similarity between varying models of reflective practice is that learning is portrayed as a cyclical process of linked stages, from observation to research, reflection and then implementation of the newly acquired understanding. This cyclical manner of reflective practice and continued learning mirrors the Professional Standards for Teaching and Leadership (Welsh Government, 2019) requirement that the practitioners own education should not be sessile but instead a continuous state of learning through active critiquing and reflection. In addition, within the standard of Professional Learning (ibid), there is a

requirement that teachers be aware of the importance of research and the role that research communities play in the development of their own practice. Furthermore, the Pedagogy standard (ibid) highlights the role practitioners play in educating learners about the importance of their own reflective practice in their education.

Such reflection upon practice by practitioners also becomes paramount at times of educational reform, such as the current transition to the Curriculum for Wales, due for formal implementation as of September 2022 (Welsh Government, 2020). Key alterations, such as the succession of Key Stages by Progression Steps, will act as a step change in the delivery of teaching and will require practitioners to evolve alongside the curriculum. Given the flexibility afforded to practitioners by the Curriculum for Wales, there will be an even greater need for teachers to be aware of their own practice, in order for the Four Purposes (Donaldson, 2015) to be realised.

Observation

BERA (2018) guidelines require that anonymity be explicitly respected and at no point shall the school, practitioners or learners be identified by name or description. To allow for context, the schools' Esytyn report (2015) was consulted.

The critical incident considered for this reflective practice took place within a primary school reception class, in a semi-rural village in South Wales. The school was a designated pioneer school and teachers had been structuring their practice within the Curriculum for Wales guidelines. Learners were organised into groups depending on perceived ability. Points, via Class Dojo, were awarded throughout the day to learners for good behaviour, such as paying attention and engaging in questions. The layout of the room allowed for several areas dedicated to continuous and enhanced provisions, with tables joined together for focus tasks, and an outdoor activity area.

In total, three incidents were turned critical (Appendix A), with literature review linked to one of them being the focus of this paper.

Critical incident

During writing practice in workbooks, seated at grouped tables, one learner appeared disengaged and had little interest in completing the task. They drew over their workbook page and became further distracted. The teacher encouraged them to complete their work to no

avail. The teacher did not rebuke the learner or make them stay at the table until they had completed the task but instead, allowed the learner to go outside and play. Later on, the learner was provided with additional resources, in the form of a wipeable paint mat, to encourage the development of their writing practice. Once provided with scaffolding, the learner did engage with learning. The learner continued this engagement later on with their peers as part of a continuous provision.

The actions of the teacher raised questions as to why the learner was not made to complete the same task as their peers, and why the learner was not encouraged to complete their work in return for Dojo points, which had previously been offered to the class in return for good listening during registration. It was also interesting to see how scaffolding had been so effective in engaging the learner and steering them back on task.

What was plain to see was that the learning experience for this learner was different to their peers. The Curriculum for Wales (Welsh Government, 2020, p.8) stresses that whilst all learners will progress along the same continuum of learning, the rate at which they progress will differ from child to child. In addition, practitioners are asked to consider how individuals learn and their approach to learning (ibid, p.9) when designing classroom activities. The driving force behind this is the belief that pedagogy which is centred towards the personal needs of the learner will aid in the realisation of the purposes of a curriculum (Donaldson, 2015, p.5). This informs us that the successful practitioner is one who not only recognises the needs of the individual learner, thus ensuring equity of education, but one who also has a firm understanding of the varying approaches to learning, informed by a study of learning theories. In addition, fostering a learner's own commitment to learning, resulting in capable and confident individuals, is included within two of the Four Purposes (Donaldson, 2015) upon which the Curriculum for Wales is centred around (Table 1).

Table 1. Curriculum for Wales Purposes relating to this research. Adapted from Donaldson, 2015

Ambitious, capable learners who: • set themselves high standards and seek and enjoy challenge And are ready to learn throughout their lives	Healthy, confident individuals who: • face and overcome challenges And are ready to lead fulfilling lives as valued members of society
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With the above in mind, this critical incident has led to a critical consideration of how learning theory might influence own practice when fostering engagement, and how an understanding and implementation of scaffolding might help address the needs of individual learners.

Research on learning theories will focus upon the main themes of behaviourism, to better understand why rewards were not offered to the learner, and constructivism, in order to better understand the thought process in replacing the workbook task with learning through play.

Literature Review

Behaviourism and Constructivism

Equating observable behaviour to knowledge (Lenjani, 2016; Murtonen, Gruber and Lehtinen, 2017, p117), behaviourism sees learning as a stimulus-response event. Skinner developed his model of operant conditioning to explain that behaviour can be shaped by consequences, and that desired behaviour can be strengthened by rewarding it (Aubrey and Riley, 2019). In this way, a behaviour, such as desire to complete a learning activity, can be learnt (Al-Shammari et al, 2019, p.409) and engagement fostered through reward. This model differs from Pavlov's classical conditioning in that the active participant, by carrying out the desired activity, is in control of when they receive the reward (Aubrey and Riley, 2019).

In-class behaviourism-based practices include direct teaching, rote learning, drills and instructional steps (Chambers, 2013, p.39-52; Pritchard, 2017). Direct-teaching can also see learning broken down into small-steps, with repetition until all steps are achieved (Lenjani, 2016).

However, proponents of the constructivist school of thought share a conviction that such didactic styles of teaching, whereby learners listen passively to the teacher, do little to educate (Aubrey and Riley, 2019, p.3). In place of direct teaching, they advocate the active involvement of the learner, with the teacher acting as a facilitator (ibid, p.46) in the learner's search for meaning of new experiences (Lenjani, 2016, p.18). Piaget (1952), an exponent of cognitive constructivism, theorised that in learning, mental structures, termed 'schemas', are created which contain known information about a certain topic. Interaction with their environment through experiential play allows learners to build upon existing schemas, an activity best undertaken solo. Piaget believed that humans hold a driving desire to understand the world (Aubrey and Riley, 2019, p.43) and that progression to adulthood was via development stages,

accomplished stepwise. A change in development stage sees a change in the learner's capability, with stage attainment, influenced by age, becoming a limiting factor (Appendix B).

Vygotsky (1978) however, believed that experiential play through interaction with other children, rather than as a solo activity, was vital to cognitive development, termed social constructivism. Indeed, Vygotsky saw social interaction between people as being the very catalyst required for development within a person, a process termed internalisation. With this notion came Vygotsky's Zone of Proximal Development (ZPD) (Figure 1).

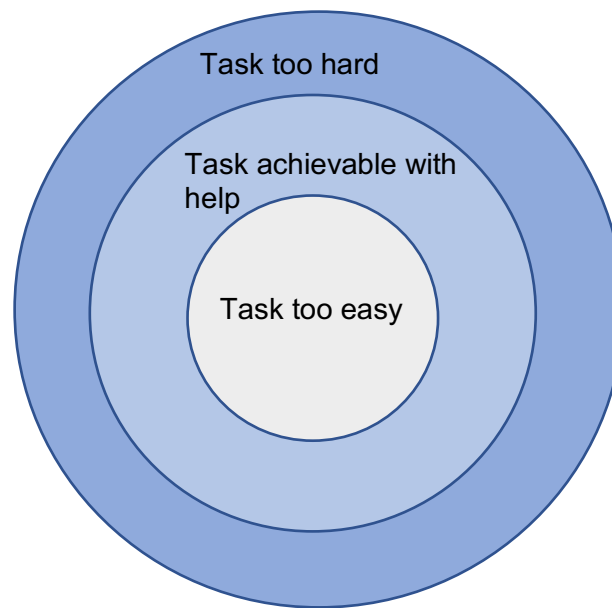


Figure 1. Pictorial representation of the theoretical space referred to as the Zone of Proximal Development, as identified by Vygotsky (1978, p.68), here labelled as 'Task achievable with help'.

A means of identifying functions and capabilities that are "in the process of maturation" (Vygotsky, 1978, p. 86), the ZPD is a theoretical space between what a learner can achieve when working alone and what they can achieve when provided with assistance. Vygotsky proposed that when the ZPD has been established, there is an opportunity for children to learn more than would be possible alone.

With teachers being envisaged as facilitators, the constructivist classroom will value the active role and involvement of learners (Bada, 2015). In place of rote learning, constructivism promotes learning via a line of enquiry (Chan *et al*, 2020) with Tam (2000) stating that there should be flow of knowledge between teacher and student, with both sharing authority in the learner's education. This sense of learner ownership results in not only greater autonomy and engagement, but also deeper learning (Bada, 2015). Activities should allow time for exploring

and experimenting in order to test new knowledge and understanding (Lenjani, 2016, p.18), allowing students to understand the parts that make a whole. With an assumption of constructivism being that schemas are built upon, classroom practitioners should ensure that they provide activities, such as lesson re-caps and asking topical and essential questions (Chan *et al*, 2020), which allow students to link their prior knowledge, learnt yesterday, to new knowledge, learnt today.

Behaviourism and constructivism provide important insights into fostering engagement with learning. However, there are some contentious and opposing areas which cannot be ignored.

With Skinner equating his findings on animal learning processes to that of human learning (Aubrey and Riley, 2019, p.76), there is an argument that behaviourism and operant conditioning is reductionist and cannot account for, or explain, the complexities of the human cognitive process (Lenjani, 2016, p.18; Murtonen, Gruber and Lehtinen, 2017, p.115). It therefore does not aid the practitioner in ensuring that a learner is fully engaging with learning or has a deep understanding of it. Likewise, direct teaching and rote learning, associated with behaviourism, have been criticised for resulting all too easily in memorisation of information instead of a deep understanding (Lenjani, 2016, p.21; Pritchard, 2017, p.105). Lenjani (2016) however goes on to clarify that, for some students, such teaching practices can be of benefit, with Bates (2019, p.759) identifying in particular students who need explicit directions. This brings to mind the attention that must be paid to understanding an individual's metacognitive process, that is, to understand their own learning and thought processes.

Unlike Piaget, Skinner saw learning as being driven by reward and not an innate longing to understand. However, for operant conditioning to be an effective tool for teaching, the desired behaviour must be rewarded as soon as possible, and repetition is vital to ensuring that the learning is strengthened (Petty, 2014). Whilst this may engage learners who are often able to complete work successfully, learners who are not successful may rarely get rewarded and lose motivation. On the other hand, one may say that too frequent rewarding of behaviours will do little more than de-value the reward and thus reduce the impetus. What we see here is that the learner must consider the reward to be of value in order for the behaviourism paradigm to be realised (Bates, 2019, p.887).

This writer's own thoughts consider that, being a function of reward, learning may be restricted to the learning environment, with the reward-drive not being present outside of the classroom. This deviates from a holistic view of education which would foster a commitment to learning

outside of the classroom and beyond school itself. Conversely, Piaget's paradigm relies on the curiosity of the learner, which may not be naturally present in all learners.

Differing from Piaget, Vygotsky asserted that age should not act as a definition, or a limiting factor, of a learner's capabilities (Vygotsky, 1978, p.87). For Vygotsky, as shown in his ZPD model, the limiting factor in learning is engaging with others, without which an individual cannot construct their own understanding and learning (Al-Shammari et al, 2019, p409). Whilst Piaget believed that solo work is best, placing learners into groups of mixed ability may help for schemas to be built upon by knowledge being pooled (Al-Shammari et al, 2019; Chan et al 2020), whilst also allowing for repetition of such knowledge. In addition, collaboration will see important socialisation and dialogue skills imbued within the learning environment (Tam, 2000). However, it must be considered that students may lead each other down incorrect avenues not aligned to academic understanding. It is for this reason that, whilst Shah (2019, p.7) highlights a view put forward by some that constructivism negates the need for practitioners to be knowledgeable, Richardson (2003, p.1631) maintains that there is a very real need for practitioners to be knowledgeable. In this way we see a fine line between teaching that is student-centred and teaching that is wholly student-led. Shah (2019, p.7) also points out Dewey's opposition to the extremes in education, and highlights that a misconception of constructivism is to see it as wholly student-led.

With Vygotsky's ZPD in mind, we see the importance of creating appropriate learning content in-class for learners; too easy and the learner will not progress, too hard and one could say that there is a risk of creating a link between education and failure. This not only requires time for teachers to assess individual learner's ZPD across all areas of learning, but also for contingencies to be built in to planning, should the assessed ability be incorrect. One such contingency could present itself in the form of scaffolding.

Scaffolding

First discussed in work conducted by Bruner in 1975 (p.12) and later expanded by others, scaffolding can be described as a process by which a learner is enabled to complete a task which they otherwise would not be able to complete if unassisted (Wood, Bruner and Ross, 1976, p.90). In this, the classroom practitioner controls elements of the task which are beyond the capability of the learner so that the learner may focus on the elements which are within their capability. Wood, Bruner and Ross (1976, p. 98) stated six key elements to successful scaffolding (Appendix C) including control of learner's frustration and recruiting the learner's interest. Scaffolding has been linked back to Vygotsky's ZPD (Aubrey and Riley, 2019) and

can take the shape of many forms, such as verbal feedback (Bruner in 1975), worksheets (Van Uum, Verhoeff and Peeters 2017) and providing demonstrations (Wood, Bruner and Ross, 1976).

Devised by Saye and Brush (2002), and recently discussed by Van Uum, Verhoeff and Peeters (2017) and Tabrizi, Behnam and Saeidi (2019), hard (static) and soft (dynamic) scaffolds have also been developed. Hard scaffolds are planned in advance, predicting learner difficulties, and soft scaffolds devised in-class or in advance, provide explicit details and further clarification of the hard scaffolding. Ultimately, all support is faded, and successful scaffolding sees the learner reach a state where they no longer require scaffolding (Aubrey and Riley, 2019, p.126).

As with learning theories, the use of scaffolding has resulted in much discourse as to its application and effect. Whilst Tabrizi, Behnam and Saeidi, (2019, p.12) state that scaffolding can increase comprehension of the task, Brownfield and Wilkinson (2018) argue that there is little empirical evidence to support the effectiveness of scaffolding, in areas such as literacy, and that there remains a presumption that it is beneficial. Care must also be taken, to ensure that scaffolding does not result in mere imitation; learners must be able to recognise and comprehend the solution or outcome to a task before they are able to successfully follow the steps to completion (Wood, Bruner and Ross, 1976).

Another issue faced by practitioners is finding an equilibrium between providing too much support and not enough support during the fade process (Van Uum, Verhoeff and Peeters, 2017). Classroom practitioners must possess a full understanding of the learner's comprehension and capabilities in order to appropriately provide the correct level of support (Brownfield and Wilkinson, 2018). And whilst Saye and Brush (2002) state that both hard and soft scaffolding must be used in order to fully support students, we must remember to allow learners to experiment, make mistakes and try solutions out themselves in order for them to gain a deeper understanding of the processes required to solve a task (Wood, Bruner and Ross, 1976, p. 90-91). Similarly, whilst key element five (Appendix C), frustration control, may be beneficial for learners who become frustrated easily, Wood, Bruner and Ross (1976, p. 98) remind us that there is a danger in allowing the learner to become too reliant on the teacher to manage situations. In these we see that successful scaffolding requires an experienced and self-assured classroom practitioner (Aubrey and Riley, 2019, p.124). In addition, whilst early research focused on one-to-one tuition, the realities in the classroom are that multiple children will be taught at the same time, with differentiation required for many different levels of capabilities. This must be factored in when constructing lesson plans.

Furthermore, there remains a dispute as to the link between Vygotsky's ZPD and scaffolding (Xi and Lantoff, 2021). Whilst Vygotsky did not use the term scaffolding, some, such as Tabrizi, Behnam and Saeidi (2019, p.2) state that it has its origins in the ZPD. Others however, state that the two, whilst separate, are complementary, with the ZPD identifying a gap and scaffolding being a means of bridging that gap (Brownfield and Wilkinson, 2018, p.170). Such discrepancies hinder effective research into the efficacy of scaffolding (Xi and Lantoff, 2021) and may result in classroom practitioners, particularly NQTs, implementing it incorrectly or without conviction.

Reflection, Evaluation and Next Steps

A review of literature concerning behaviourism, constructivism and scaffolding has provided a useful insight into best practice within the classroom and offered important points to consider. It has also shed light on the actions taken by the practitioner during the critical incident, making the implicit become explicit.

In the first instance, the practitioner did not reprimand the learner, nor did they incentivise the completion of the task by offering Dojo points, as one would expect within the behaviourist school of thought. However, literature has informed us that rewards are only effective in recruiting engagement if the learner places a high value on them. The learner involved did not, as they were seen to not engage with Dojo points later in the day, hence it was not used as a motive for learning. Instead, the learner's ZPD was acted upon, with stage and not age considered, leading to scaffolding being provided in relation to the task (in order to reduce their frustration and recruit engagement). Once comfortable with it, the learner was seen engaging in the activity via collaboration with peers through free play, such as envisioned in social constructivism. Instead of the practitioner enforcing completion of a task assumed to be achievable by someone of the learner's age, learning through play was prioritised, with the teacher acting as a facilitator to learning and understanding. The learner was also viewed as an individual, with their own cognitive processes taken into consideration, akin to Vygotsky's studies. Such practice places an importance on seeing each learner as an individual who will develop at their own rate, a key component of the Curriculum for Wales (Welsh Government, 2015, p.8). Likewise, Piaget's emphasis on play being a vehicle to learning is also echoed within the Foundation Phase Framework (Welsh Government, 2015) which places a heavy emphasis on learning through play.

As a result, we see that no one-school of learning theory was strictly followed. Instead, a blended approach, utilising key elements from varying schools of thought that relate best to the learner, was exercised. The end result was a learner who felt happy in their environment, motivated to explore, and engaged in their learning through discovery and collaborative play. This approach is encouraged by Donaldson (2015) who set out 12 key pedagogical principles which go towards highlighting how a variety of approaches should be utilised within the classroom and that the Curriculum for Wales does not advocate a wholesale approach to classroom teaching. This can be reflected in pedagogical principles 3, 4, 10, 12 (Appendix D).

As a result of this period of research and reflection, I have identified several next teaching and learning steps which will aid my future practice in fostering engagement with learning:

- Full consideration of a learner's capabilities, as opposed to age, will be given, with appropriate scaffolding implemented with the aim of gradually fading support.
- Both forms of scaffolding, hard and soft, will be identified during lesson planning, and my role as a practitioner, as identified by Wood, Bruner and Ross (1976) will also be held in mind during delivery.
- An understanding of each learner's cognitive process will be assessed in order to achieve the above points.
- Incentives and rewards for learning will be used with care and not distributed out liberally, and I will focus on the reward being of value to the learner.
- Reflection has highlighted how important it is to give full consideration of different learning theories. As such, further research and reflection will be given to other learning theories, and their implementation in-class considered.
- There remain contrasting views and limitations expressed within contemporary literature regarding classroom practices. As such, reflective practice will be continued throughout my career, so as to inform my own practice through research and own observations.

We see how reflective practice, as proposed by Tripp (1993), has seen the identification of next teaching and learning steps as a result of a period of reflection, informed by a critical incident and literature review. The critical incident acted as the event, experienced first-hand, providing a starting point to research. Learning has occurred due to the period of reflection concerning both the critical incident and literature review. Without such a reflection, an understanding of the actions taken by the observed practitioner would not have occurred. This experience has highlighted how it is indeed the period of reflection which leads to learning and

how a state of open-mindedness must be allowed. This has seen reflection on-action, which will in future aid reflection in-action (Schön, 1987). Such skills will be vital in ensuring that the learning environment created will not only be one of engagement, but one where learners are supported in their moment of confusion, disinterest or frustration. The cyclical nature of reflective practice will see the identified teaching and learning steps actioned and put into place during next professional teaching experiences, with due consideration again afforded to critical incidents arising out of them. This continuous learning is a vital component of the PSTL (Welsh Government, 2019) and will ensure that research is not only highly valued but also used to inform classroom practices.

Conclusion

This research saw an observed critical incident lead to a period of literature review and reflection concerning the role of learning theories and scaffolding within an engaging classroom. Reflection, guided by literature review of research, has led to a deeper understanding of the observed incident, and the realisation of next teaching and learning steps. Such a process echoes the requirements set out in the PSTL (Welsh Government, 2019) for practitioners to be research informed, reflective and considerate of varying pedagogical approaches.

We have seen how a practitioner's consideration of behaviourism, led to the application of the learner's ZPD with appropriate scaffolding provided. This culminated in the learner engaging in social constructivism, enjoying the learning experience and engaging with the task. With this in mind, one can see that the requirement to incorporate classroom practices based upon a range of varying educational theories will aid in creating a learning environment which encourages engagement and commitment to learning from all.

The teaching and learning steps identified will be implemented, and the cyclical process begun again, initiated by a period of observation in-class during own practice.

Word count: 4219

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Appendices

Appendix A

Field notes detailing three observed incidents. Record 2 is the subject of this paper.

Record 1

Date and time, year group: 22/09/21 - 09:00 - Reception class
Where and When: Context of the observation – subject/AOLE, general classroom context • Morning register in-class • Sat on carpet • Children still in the process of remembering the full morning routine having only just started school as couple of weeks ago.
What happened: a detailed description of the critical incident (the more detail the better to refer to in your later work) • Children began to fidget and low level talking began during register • Teacher asks for 'no talking' please, puts her finger to her lips and then also signals to a poster on the wall showing a cartoon student sitting quietly. • Children quickly settled down and the teacher continued with the register. • Spoke to the teacher later on who advised that some children will not pick up on what to do or how to act unless it is delivered in a variety of formats
Areas of possible exploration: what you think could be "under the hood" in these incidents? What avenues of research could you consider? • Led me to think about how learners may have different learning styles to each other • In order to effectively communicate and ensure comprehension when speaking to the whole class, a variety of teaching/communication methods may need to be utilised. • Brings to mind Dual Coding Theory - Two channels—Verbal and Visual and the effect they have on comprehension when combined. • Also linked Costa and Callick – 16 habits of mind (No. 2 is Managing Impulsivity) • Professional Standards for Teaching and Leadership (Pedagogy – Teacher demonstrates a knowledge and understanding of the needs of all learners)
Notes: any details you can note (is it a busy environment, is it after lunch, are there lots of distractions, are directions made explicit - the more you can refer to the better here) • Directions made explicit both verbally, by modelling and by visual cue (poster on wall).

Record 2

Date and time, year group: 22/09/21 - 09:40 – Reception Class

Where and When: Context of the observation – subject/AOLE, general classroom context

- Writing task focus group (practising writing out letters), sat at cluster of tables
- 5 students
- 1 Teacher
- In-class
- First activity of the day after register

What happened: a detailed description of the critical incident (the more detail the better to refer to in your later work)

- One learner becomes disengaged quite quickly, scribbles over workbook.
- Teacher does not incentivise via Dojo points or rebuke learner but allows them to go outside to play.
- Same learner later on seen engaging with colourful wipeable paint mat practising writing out letters (the task set them earlier) with the teacher – teacher provided learner with scaffolding
- Learner then begins to engage with the resource by themselves.
- Shortly after, they are seen engaging with the same resources with a small group of friends who are doing the same as thing.

Areas of possible exploration: what you think could be” under the hood” in these incidents? What avenues of research could you consider?

- Led me to think about learning theories:
 - Behaviourism; why was the learner not incentivised to complete task by promise of Dojo points?
 - Constructivism; mentions social collaboration aiding understanding/hands on approach to construct own understanding
- How can scaffolding help in my own practice? Are there limitations/things to consider?
- Professional Standards for Teaching and Leadership – Pedagogy - Managing the learning environment- ‘demonstrates the effective establishment and on-going management of the learning env...positive learning habits and behaviours’

Notes: any details you can note (is it a busy environment, is it after lunch, are there lots of distractions, are directions made explicit - the more you can refer to the better here)

- Child did not find the work engaging when delivered in an ‘at table’ writing format, but did engage when provided with one-to-one assistance
- Child was not incentivised to work via offering Dojo point and was not made to complete the exact same work as their peers.
- Scaffolding (wipeable paint mat) helped to encourage interest
- Child seemed much happier and engaged once the task had been amended for them

Record 3

Date and time, year group: 23/09/21 – Afternoon – Reception Class

Where and When: Context of the observation – subject/AOLE, general classroom context

- In-class one-to-one baseline assessment taking place with learner

What happened: a detailed description of the critical incident (the more detail the better to refer to in your later work)

- Learner is focusing on task (creating a repeating pattern using interlinking camel models)
- As this is a baseline assessment the teacher is not allowed to provide explicit feedback after modelling.
- Learner loses focus as children playing in the Home corner suddenly become very loud and two pupil's run in to the classroom from playing outside.
- Teacher ask children to use their inside voices and redirects the other learners back outside

Areas of possible exploration: what you think could be "under the hood" in these incidents? What avenues of research could you consider?

- Led me to think about the teaching environment and effects on learning
- Physical environment – temperature, layout
- Emotional environment – wellbeing, class charters, zones of regulation
- What other issues could impact learning? – external health and wellbeing issues (home issues, hunger, lack of sleep)
- What can schools do to mitigate such issues? Can they do so effectively?
- Professional Standards for Teaching and Leadership – Pedagogy - Managing the learning environment- 'demonstrates the effective establishment and on-going management of the learning env...'

Notes: any details you can note (is it a busy environment, is it after lunch, are there lots of distractions, are directions made explicit - the more you can refer to the better here)

- Lots of distractions
- Similar scenarios happen for other learners during course of the afternoon
- Teacher mentions that current set up is far from perfect; space has been impacted due to Covid bubbles needing to be formed and they would normally have more space.

Appendix B

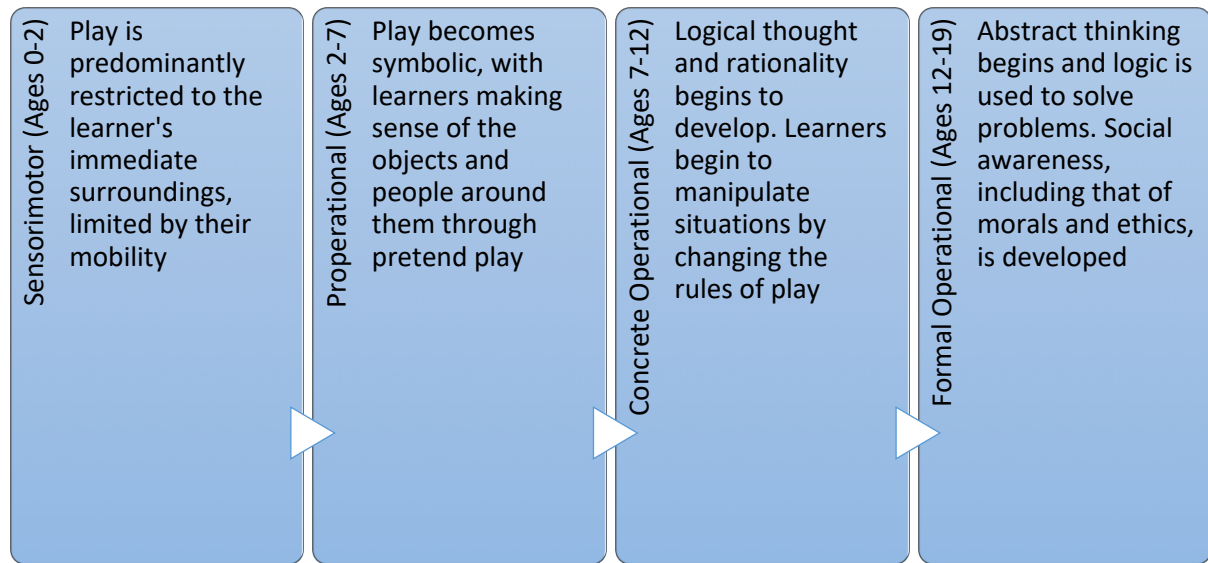


Figure 2. Progression to adulthood via development stages, accomplished stepwise, as identified by Piaget. Adapted from Aubrey and Riley, 2019, p.44-45

Appendix C

Table 2. Functions of the classroom practitioner during scaffolding. Adapted from Wood, Bruner and Ross, 1976, p.98

Functions of the classroom practitioner	
1.	<i>Recruitment.</i> To engage the learner's interest in the task and foster a desire to complete it.
2.	<i>Reduction in degrees of freedom.</i> Reducing the number of variables or steps in a task, so as to simplify it
3.	<i>Direction Maintenance.</i> Helping the learner to stay on track and keep focused on the task at hand
4.	<i>Marking critical features.</i> Highlight to the learner any discrepancies between their solution and the correct one
5.	<i>Frustration control.</i> Taking actions deemed necessary so as to limit embarrassment, frustration or a sense of failure on the learner's behalf.
6.	<i>Demonstration.</i> More than simply modelling, this sees the practitioner carry out an idealised attempt at solving the task with the aim of the learner then imitating

Appendix D

The 12 pedagogical principles, adapted from Donaldson (2015).

Good learning and teaching:

1. maintains a consistent focus on the overall purposes of the curriculum
2. challenges all learners by encouraging them to recognise the importance of sustained effort in meeting expectations that are high but achievable for them
3. means employing a blend of approaches including direct teaching
4. means employing a blend of approaches including those that promote problem-solving, creative and critical thinking
5. sets tasks and selects resources that build on previous knowledge and experience and engage interest
6. creates authentic contexts for learning
7. means employing assessment for learning principles
8. ranges within and across Areas
9. regularly reinforces the cross-curricular skills of literacy, numeracy and digital competence, and provides opportunities to practise them
10. encourages learners to take increasing responsibility for their own learning
11. supports social and emotional development and positive relationships
12. encourages collaboration.