

Teitl yr aseiniad (h.y. eich cwestiwn ymchwil)**Assignment Title (i.e. your research question)**

Gallwch ychwanegu'ch targedau o'ch aseiniad diwethaf gan ddefnyddio'r tabl isod. /

Please add your targets from the previous assignment using the table below.

	Targed/Target	Yr hyn yr wyf wedi'i wneud yn yr aseiniad hwn. What I have done in this assignment.
Targed/Target 1	Continue to proofread to eliminate minor punctuation errors.	I have proofread my assignment several times to eliminate any punctuation or other errors.
Targed/Target 2	Continue to set explicit strategies to address any targets for improvement.	I have set strategies such a proofreading my work and engaging with a wide range of literature.
Targed/Target 3	The best use of literature featured engagement with a range of contrasting views, as opposed to dealing with texts one at a time.	Throughout the assignment I feel that I have engaged with a wide range of literature expressing supporting and also conflicting views towards positive reinforcement and praise in the classroom.

Introduction

This research project aims to investigate the impact of positive reinforcement on low-level disruptive classroom behaviour. The subject that interested me the most was behaviour because it is one of the most prominent issues within education (Ball et al. 2012; Overton & Sullivan, 2008; Angus et al., 2009), and positive reinforcement systems such as Class Dojo suggest that they can improve pupil behaviour (Manolev et al. 2019; Saeger, 2017).

Nonetheless, in myself and my research partners class low-level behaviour disruption is a problem and we both use Class Dojo as a positive reinforcement approach. Consequently, we wanted to investigate the direct impact of Class Dojo on pupil's low-level disruptive behaviour hence our research question is "How can we improve pupil's low-level behaviour disruption in class through positive reinforcement of dojo points and praise?"

Research Context

The research was conducted in two primary schools in South Wales. The first school was a large, rural school with an above average percentage of free school meals at 53% (School A Estyn report, 2015). The school currently has approximately 500 pupils and the research took place in a split year three and four class. The second school is located in a brand-new purpose-built building which recently moved from a rural village setting to a town setting around a mile from its original site. The school currently has 340 pupils and an above average percentage of 33% FSM. The research took place in a year five class.

Literature Review

A high proportion of issues within schools have been related to student misbehaviour. Concerns linked to student behaviour are largely becoming a widespread issues as Ball et al. (2012, p.98) notes that behaviour is one of the dominant discourses of schooling. Consequently, sustaining a disciplined learning environment is of high importance because they are related to high student engagement and achievement (Overton & Sullivan, 2008; Lewis et al. 2005; Angus et al., 2009). It is evident that there are two common types of behaviour disruption in the classroom which can be categorised as 'low-level' behaviour disruption and 'serious' behaviour disruption. The government published one of the most comprehensive surveys surrounding low-level disruption and found the most common behaviour issues cited by teachers were work avoidance, talking out of turn, pupils who distracted others, unnecessary making of noise and students who were not punctual (DES,

1989). On the other hand, serious classroom behaviour disruption has been described as children who cannot control their behaviour, become physically abusive to other children and staff and may present a danger to others in the classroom (O'Neill et al., 2012; Olsen and Cooper, 2001).

More recently, Beaman et al. (2007) found that despite low-level disruptions continuing to be an issue, they are relatively minor but remain great concern for teachers as when pupils frequently misbehave teachers find it difficult to manage them (Sullivan, 2014). This is supported by Ofted (2015) who found that low-level disruptive behaviour in classrooms impedes a child's learning and damages their life chances, consequently, pupils are potentially losing up to one hour a day of learning due to low-level classroom disruption. In addition, classroom disruption is becoming detrimental to teacher's wellbeing and job satisfaction as in Wales, Estyn (2013) support that classroom misbehaviour and low-level disruption remains an issue as continues to impact teacher absence in the classroom. Due to the high frequency of these behaviours, they become 'irritating and time-wasting and, over time, ultimately exhausting and stressful for teachers' (Beaman and Wheldall, 1997, p.53).

Building a positive and engaging classroom climate can be the most powerful tool educators may use to help support a child's learning and avoid disruptive behaviours from happening (Conroy et al., 2009). Positive reinforcement is the delivery of reinforcement of an individual's actions that are considered positive when a person shows the desired behaviour, it can only be labelled as such if the reinforcement increases the likelihood of the behaviour occurring again (Morin, 2017; Sumiati et al., 2019). Skinner (1953), introduced the theory of operant conditioning where learning occurs through the association of rewards and punishments through the process of reinforcement. This approach has been significantly underused in the classroom as Maag (2003) found a significant number of teachers had reservations about using reinforcements for behaviour management that may threaten individual's freedom as autonomous human beings and undermine pupil's abilities in becoming self-directed (Kohn 1993; Sulla et al. 2019). Nonetheless more recently this approach has developed in popularity among classrooms as is an easy way of providing teachable moments to a whole class, setting good examples and expectations of behaviour, is less time consuming than constantly punishing bad behaviour and boosts wellbeing for those with positive behaviour as pupils aim to please their teachers (Kelly and Pohl, 2018, p.24; DiTullio, 2014; Nordin and Shaari, 2017).

However Maguire et al. (2010) argued that behaviour disruption may be as much to do with inadequacies of the curriculum on offer or inappropriate pedagogy than ineffective discipline policies. It was noted that approaches such as positive reinforcement, stemming from the

behaviourist approach, do little to tackle these matters, shifting the focus from behaviour management strategies to pedagogy (Maguire et al., 2010, p.166; Sullivan, 2014). Nonetheless, within Wales curriculum changes are being made to encourage all types of learners to engage through the pedagogy of the four core purposes and twelve pedagogical principles and positive reinforcement still holds huge advantages to learners (Donaldson, 2015; Morin, 2017; Sumiati et al., 2019). Another issue reported with the approach within classrooms is that educators often use praise interchangeably with positive reinforcement when an important distinction exists between the two. Consequently, it is essential to let the child know what behaviours are desired and when they engage in these behaviours to positively reinforce them, not just praise them, as without reinforcement the likelihood of that behaviour being conducted again decreases (Sigler and Aamidor, 2005; Henniger, 2002; Jones and Jones; 2004). However, Class Dojo continues to do both by reinforcing behaviour through intrinsic rewards for example, praise and various extrinsic rewards such as prizes and points. This suggests that Class Dojo successfully serves as a source of positive reinforcement as an informative and behaviour educational tool but also as a source of supportive praise for children (Saeger, 2017). This reading helped shape our research question as for the basis of this research Class Dojo will be viewed as a source of positive reinforcement and praise.

Low-level disruptive behaviour was both something myself and my research partner observed in our placement classes, even with positive reinforcement present. We wanted to observe the impact of positive reinforcement on low-level behaviour disruption, investigate its effectiveness and if it works in the classroom. Although there is a range of research into positive reinforcement, there is relatively little research into specific techniques such as Class Dojo, which was a common positive reinforcement technique between the schools. Class Dojo has been described as one of the most successful and popular educational technologies which is used across the world. It is a school-based social media platform which comprises a behaviour-shaping function, that provides schools with a central system to interact (Manolev et al. 2019). Saeger (2017) supports the effectiveness of Class Dojo as a positive reinforcement technique as pupils showed a rise in positive behaviours and undesired behaviours within the classroom were reduced after the implementation of the application. It is evident that Class Dojo has had lots of support for being a useful piece of technology, for teachers as well as improving pupil behaviour. However despite already having this technology in classrooms, both myself and my research partner experienced high levels of low-level behaviour disruption. Consequently, this research has supported our

research question to investigate the direct impact of pupils receiving positive reinforcement through a dojo point and its effect on low-level classroom behaviour at that specific moment.

Lesson Study Research Design

The methodology used in the present research was a lesson study, a form of action research with the purpose of improving the quality of teaching using the method of being reflexive, recursive and collaborative (Dudley, 2011, 5). Stepanek et al. (2007) notes that inside the classroom are often habits and routines that pass undetected and remain undetected by the classroom teacher until they are observed in a different context or from a new angle. These habits can be made visible through the method of a lesson study whereby teachers work collaboratively to plan a lesson, teach the lesson and observe the lesson while collecting data on student learning. This approach to observation has been widely supported within the education system in Japan and is an approach that has been successfully used since the 1950s (Abiko, 2011). Bazeley (2016) suggested that qualitative research should not be limited to one method such as observation, to combat this within the present research interviews and a reflection will be used in addition to the observation method. This is supported by Archibald (2016) who describes the benefits of drawing upon numerous methods to enrich research to allow the ability to suggest alternative explanations to experience. The term 'triangulation' may be used to describe the process of a lesson study through using three different methodological approaches as an approach for the support of the results, generalisations of discoveries and as a route to gaining further knowledge (Flick, 1998; Denzin, 1978; Seale, 1999)

Rather than centring on the performance of individual teachers, a lesson study involves the planning of joint envisioned research lessons to be able to discover specific problems with learning, such as low-level behaviour disruption (Cajkler et al., 2015). Three pupils were identified as case study pupils in accordance to Dudley's (2015) lesson study. These pupils were selected to represent high low-level behaviour disruption, medium low-level behaviour disruption and low low-level behaviour disruption based on their previous engagement within the class (Beaman and Wheldall, 1997).

Observation has been described as one of the fundamental and most well-established methodologies used in the field of educational research (Allwright, 2014, p.11). Hence, an observation schedule has been devised based on The Leuven Scale of Active Engagement in Learning (SCILT, 2019). However, this was adapted to suit our lesson study by using a tally to be able to measure as accurately as possible low-level behaviour disruption in the classroom. A partial interval time-sampling observational data collection method was

suitable to the research question we were asking, it allowed us to record whether behaviour occurred or did not occur during the five-minute increments of observation (Apter et al., 2010). The non-participant observations were collected using the observation schedule which lasted for a total of 30 minutes, in addition to the observer making additional qualitative notes of the case study children's behaviour when receiving a dojo point (Appendix 1 and 2).

Nonetheless, observation as a method presents some issues as Punch and Oancea (2014, p.199) suggest that observer bias may be high in non-participant observation because pupils are aware they are being observed which can influence their behaviour, this is known as the Hawthorne effect (Chiesa and Hobbs, 2008). Within a classroom environment, this effect is difficult to resolve, however Chen et al. (2015) recognised that it may be decreased through taking the role of participant observer, shortening observation times and conducting unexpected trips that are more likely to represent ordinary behaviour in school environments than scheduled visits. Nonetheless, Bazeley (2016) suggests that qualitative research should not be limited to one method, as part of the lesson study observations were employed alongside other methods such as focus groups and reflections. In addition, the ability to employ multiple research methods only enriches research and allows researchers to suggest alternative approaches of phenomenon (Archibald, 2016; Wolcott, 1988).

Cohen et al. (2018) emphasises the importance of focus groups taking place as soon as is convenient after the observation lesson to ensure the reliability of pupil's opinions, thoughts and beliefs. Hence, immediately after the observation had taken place, case study pupils were taken to the library or a spare classroom which was a discreet, neutral area which was known to the child to help reduce any anxiety that may arise from being interviewed (Bell, 2011). Interviews and focus groups with children present difficulties as Siraj-Blatchford and Siraj-Blatchford (1997, p.239) found that when interviewing children, they often associate researchers with other figures of power for example, teachers and parents. Within the lesson study the teacher and observer were present when interviewing the children, this means that the children may be less likely to give a true representative account of their thoughts and opinions (Edger and Fingerson, 2002). Siraj-Blatchford and Siraj-Blatchford (1997, p.239)

The final methodology of the lesson study involved reflections which were captured using a reflective model based on Brookfield's Lenses (Brookfield, 1998). This was considered to encourage the researcher to reflect using alternative perspectives in order to eliminate any

possible bias while ensuring there was continuity between researchers when reflecting. Reflection models are valuable because they ensure practitioners combine theory and practice in addition to influencing proficient decision-making and encouraging analysis to not only improve a teacher's performance but to improve student learning (Butler, 2016, Camburn and Won Han, 2015, Hatlevik, 2011). The model will be used to reflect through four different lenses: the autobiographical, the student's eyes, our colleague's experiences, and theoretical literature (Brookfield, 1998).

Ethical Considerations

When undertaking research ethical guidelines needed to be adhered to, to ensure no harm was caused to participants. Consent within any research is of the utmost importance as David et al. (2001) notes that informed consent is given and essential. However, Alderson (2004) acknowledges that consent is a key issue in research with children as there is not a simple solution for whether a child is of a responsible age to provide consent. Hence, in the present research, consent was derived from the school and parents of the pupils taking part in the research as well as ascent from the pupils. When researching with children who are below the age of sixteen informed consent will be obtained from parents or those in loco parentis (UWTSD Research Ethics and integrity code of practice, 2017). In addition, confidentiality and the right to withdraw are essential, hence anonymity was adhered to throughout the research and pupils had the opportunity to withdraw from the study and being interviewed at any point throughout the study, giving no reason at all (BERA, 2018). I ensured that the right to withdraw was age appropriate to the children involved, this involved children having a cross and tick sign on their desk and were able to turn this over if they no longer wanted to participate in the study.

Results and Analysis

Lesson Study One

Lesson study one took place in school Y during the first lesson in a split year three and four classroom with two girls and one boy named as pupils A, B and C. The pupils who were aged between seven, eight and nine and the lesson being taught was maths. Three case study pupils were selected based on previous levels of disruptive behaviour to represent low, medium and high levels of low-level disruptive behaviour. High low-level disruptive behaviour was characterised as someone who frequently shows low-disruptive behaviour, medium was to represent an individual who sometimes engages in disruptive behaviour and low was to represent an individual who is unlikely to be disruptive (Beaman and Wheldall, 1997).

The observation schedule allowed for focused and clear guidelines of recording data (Phellas et al., 2011). The evidence that the case study children presented from this lesson study suggests that positive reinforcement and praise has a huge influence on the motivation for children's classroom behaviour. This is evident as it was noted that Child C received no dojo point however this child also showed the highest levels of disruptive behaviour throughout the lesson. Compared to Child A and B, who both received dojo points, their low-level behaviour disruption was significantly less frequent than Child C which suggests that the receiving of a dojo point may have a direct impact on reducing low-level behaviour disruption. Consequently, this leads to question that if Child C had received a dojo early on in the lesson, would their behaviour have changed as a result of receiving the dojo point? Although Child C was characterised by researchers as a pupil who shows frequent levels of low-level disruptive behaviour, if the teacher had caught the student being good for something small then his behaviour throughout the lesson might have been less disruptive. This is in line with research findings from Maag (2001) who suggests that positive reinforcement can be successfully implemented with all pupils if teachers are willing to catch students being good, have small expectations and use peer influence favourably (Rhode et al., 1995).

Interviews with case study students meant that we could gain a greater understanding of the children's views of positive reinforcement and praise in the classroom (Heary and Hennessy, 2006). Interestingly, when asked how likely pupils would be to take part in a lesson without any praise from teachers all pupils responded with likely or very likely (Appendix 3). This may be explained by findings who suggested that the difficulty with interviewing children is that they will often answer in ways that they believe will please the teacher because of the imbalance of power whereby the teacher was part of the interview process (Edger and Fingerson, 2002; Siraj-Blatchford and Siraj-Blatchford, 1997). Nonetheless, when children were asked how likely they would be to take part in a lesson when receiving dojo points and praise from teachers, all children undoubtedly responded with very likely, suggesting that positive reinforcement through the use of Class Dojo may improve participation levels in addition to low-level classroom behaviour.

Lesson Study Two

Lesson study two was carried out in school Y, in similar circumstances to school X the lesson study took place during the first lesson of the day where maths was being taught. The case study pupils in this class differed from the previous lesson study because they were in

year five, aged between nine and ten years old and two pupils were boys and one was a girl named as pupils D, E and F.

When devising the research question, we discussed the consistency of positive reinforcement between schools, consequently deciding to investigate the impact of Class Dojo as this was a common approach used in both schools. Kamery (2004) notes the importance of consistency when using positive reinforcement, which is supported by McKevitt and Braaksma (2008) who suggests that positive and undesired behaviour needs to be attended to swiftly and consistently to ensure that the behaviour is either repeated or not repeated again. However, we did not anticipate that Class Dojo as a positive reinforcement approach could vary to the extent it did between schools. In school X it was evident that it was the norm for teachers to give out three or five dojo points for one positive action, compared to school Y where the norm involved rewarding a child with one dojo point. Although relatively small discrepancies, after conducting the two observations it was evident that School X rewarded pupils with a higher frequency of dojos and these were given out more frequently. In school Y, only one of the case study pupils received a dojo point. This was supported by my research partners reflection, who noted that they were “surprised by the number of dojos that were given out throughout the lesson and how Class Dojo can differ between two schools” (Appendix 4).

Furthermore, the disparity between the consistency of Class Dojo in school X and Y can be found in the responses from the case study pupils the interview process. In school X, many of the case study pupils were eager to answer the questions, extended on most of their answers and used exciting language to describe how they felt when they received a dojo point. In comparison, the case study pupils in school Y were a lot more reserved, especially pupil E who was characterised by researchers as a high low-level behaviour disruption. There is evidence to suggest that pupil E became withdrawn from the interview as child D and F showed their enthusiasm by responding throughout the interview that they felt “happy” and “proud” of themselves for achieving dojo points (Appendix 3). Whereas child E responded by saying “same” or replying with “yes” or “no” answers. The interviewer often asked each child individually if they had anything else to add to their answer and child E always replied “no” (Appendix 3). Interestingly, during the observation it was noted that Child E didn’t receive any dojo points and adding up the tally of low-level disruption shows that Child E presented the highest level of low-level disruption. This was also supported in my research partners reflection, “pupil E did not receive any dojo points, however he did show the highest signs of low-level disruptive behaviour” (Appendix 4). Consequently, pupil E might have thought that the questions being asked did not relate to him because he did not receive a dojo throughout the lesson observation.

Alternatively, pupil E was a boy who was characterised by the researchers as the representation of high low-level disruptive behaviour. Despite gender not being discussed during the literature review, it may explain pupil E's responses to the interview questions. Arbuckle and Little (2004) report that boys usually display more disruptive classroom behaviour than girls and receive more negative teacher reactions compared to girls. However, this is not solely down to the gender because pupil F was also a boy but responded completely differently to pupil E. This is in line with Kellem et al. (1994) research as positive reinforcement seemed to have the largest effect on boys (Ialongo et al., 1999; Leflot et al., 2010). In addition, this pupil was representative of low-level disruptive behaviour. Consequently, both factors that pupil E was a boy and had previously shown frequent levels of high low-level disruptive behaviour, may have contributed to his reserved attitude to answer the interview questions.

Discussion

Across all six case study pupils it was evident that pupils enjoyed receiving a dojo point because it made them feel proud, nice, helpful and happy (Appendix 3). This suggests that positive reinforcement has a larger impact on the child than just encouraging them to reproduce the desired behaviour. This is supported by Roffey (2012) who encourages the use of positive reinforcement within education because not only does it promote positive behaviour but also positive emotions which in turn promote creativity, problem solving and coping skills (Fredrickson, 2009).

An important finding that came out of the present research was the value of positive reinforcement in the classroom. Despite choosing the case study children on the basis of them typically showing low, medium and high low-level behaviour disruption, all pupils noted that they enjoyed receiving a dojo point. This led to the question that if all pupils enjoy receiving a dojo point, why don't all pupils behave well to try and receive a dojo point? One possible explanation may be that teachers are not consistent in the distribution of positive reinforcement such as giving out dojo points, hence without teachers showing consistency to the approach, children will inevitably follow (Heilburn Jr, 1964; Kamery, 2004). In addition, due to the format of the observation schedule, it was difficult to analyse the specific effect of students receiving a dojo point and the impact this had on low-level behaviour disruption in the classroom. Despite these issues, it was evident that some children rely on class dojo and dojo points as a form of praise and to be accepted by teachers. Dweck (2000) suggests that this may stem from a large proportion of parents who believe praise is necessary, especially when praising a child's ability when performing well.

The system of Class Dojo can be useful in reminding teachers to give short and regular positive reinforcement, Roffey (2012) suggests that this also has a positive impact on student attention, engagement and concentration rates. This finding was evident during the interviews where there were significant differences between the two age groups interviewed about how likely they would be to take part in a lesson without any praise from teachers. During the interviews two out of three of the older children answered that they were least likely or unlikely to participate in a lesson without any praise. Despite the inconsistencies between Class Dojo in the two schools, an alternative explanation of this finding may be explained by Burnett and Mandel (2010) who found that younger pupils preferred ability feedback, however as children grow older their preference for feedback increases, specifically feedback about their effort. This challenges the commonly held view that praise in the classroom may be wanted by younger children but is undesirable for older children (Ward, 1976; William and John 1994). Nonetheless, it must be acknowledged that student's individual differences as well as the different conditions under which prior praise has been given will influence the effectiveness and value of teachers praise (Lam et al. 2008; Conroy et al. 2009; Diedrich, 2010).

Conclusion

It is evident that the lesson study allowed us as researchers and teachers to gain a greater insight into pupil behaviour. Robinson et al. (2009) argues that the process of collaborative research enquiries into improving teaching and learning is the most impactful action a teacher can take to improve educational outcomes for pupils. A huge advantage of the lesson study method is its reflexive practice, allowing to reflect through Brookfield's (1998) Lenses meant that the reflection was as close to a true reflection as possible and was not open to bias (Brookfield, 1998; Dudley, 2015).

There are significant limitations to using the lesson study methodology in educational research. Firstly, it must be acknowledged that these findings may not be generalised due to the extremely small sample of pupils observed and the specific investigation of Class Dojo as a method of positive reinforcement. Despite this, focusing on a limited number of pupils allowed us as class teachers to become more aware of the individuality of all of the pupils learning needs and behaviours (Dudley, 2015). In addition, the success of the two lesson studies and insights gained from pupils and about learner's behaviour suggests that teachers may benefit from small scale forms of lesson studies that are more frequent in Japan (Dudley, 2015; Cajkler et al. 2014; Dudley, 2005). The research methodology was not piloted, Bhattacharjee (2012) suggests that pilot testing is a vital research process to ensure

that the methods used in the research are valid and reliable processes. If a lesson study was to be conducted again, I would ensure that a pilot study is carried out, especially the observation schedule as it was evident that our observation schedule meant we were limited in what we could observe and struggled to make direct links between how pupils receiving positive reinforcement influenced low-level disruptive behaviour.

A final possible limitation of the study was that I took the role of being a research as well as a class teacher. Creswell (2007) notes caution in conducting research in your own “backyard” because it leads to question whether good data can be collected as there is inevitably a power imbalance. This may have been particularly evident when collecting interview data, as despite my research partner conducting the interview, I was still present which may have influenced the pupil’s responses as the literature suggests that some students aim to please their teachers (Kelly and Pohl, 2018, p.24; DiTullio, 2014; Nordin and Shaari, 2017).

Through the methodology of lesson study it is evident that children in my class felt that only sometimes I gave a reason for giving out dojos and that dojos were not always given out fairly. The responses to the interview questions in my class include that “you could be doing something good, but the teacher doesn’t always spot you” (Child D, Appendix 3). Without the lesson study methodology it would be extremely difficult to find this information out, the lesson study methodology has given me an insight into the motivation for pupil’s behaviour in the classroom and suggests that as a teacher I must pay closer attention to those who are doing good which often goes unnoticed. Consequently, the use of interviewing case study pupils in this lesson study process was instrumental to discovering how the low-level behaviour disruption may be improved in the classroom. From this conclusion I am to improve my use of noticing and positively reinforcing a child’s behaviour in the classroom rather than looking specifically for bad behaviour and using discipline. Building a positive and engaging classroom climate may be the most influential tool educators may use to support a child’s learning and avoid disruptive behaviours from arising (Conroy et al., 2009; Kelly and Pohl, 2018, p.24; DiTullio, 2014). This is supported by Reeve and Jang (2006) who suggest that the advantages of searching for good behaviour in the classroom far outweigh the disadvantages because it also improves student motivation to work (Ryan & Deci, 2002; Reeve et al., 2003). If I were to conduct this lesson again, I would make a huge effort to spot good behaviour and reward it through giving out dojo points, I would also make it a priority to see the effect of positive reinforcement on children’s motivation and wellbeing.

Recommendations

Three main recommendations have arisen through the process of conducting and writing up this research. Firstly, this study is supported by a wide range of research into the positive consequences of using positive reinforcement in the classroom. Due to the desirable outcomes of positive reinforcement for behaviour disruption, one recommendation for future research would be to investigate the consequence of using positive reinforcement to improve other areas within the education system than behaviour. It would be interesting to investigate the impact of positive reinforcement in areas such as reading or mathematics performance to see whether this has a positive impact on children's attainment (Dolezal et al. 2007; Quick, 1972; Rumberger, 2013).

Within the present study, none of the six case study children that took part in the lesson study had additional learning needs. Nonetheless there is research to suggest that children with learning difficulties such as ADHD respond best to motivation and positive reinforcement (Carlson and Tamm, 2000; Saad and Lindsay, 2010). A recommendation for future research may be to include a variety of case study pupils that include ALN such as ADHD, Autism or pupils suffering from anxiety to assess their views on positive reinforcement as to whether it helps or hinders their classroom experience.

Finally, in regard to the methodology of the lesson study, two student-teachers took part in the process of reflexive, recursive and collaboration (Dudley, 2011, 5). The lesson study took place in our placement schools; however our mentors were not involved in the process. A recommendation for future research would be to allow student teachers to work together on a lesson study with class mentors as a lot may be learnt through collaboration. Lamb et al. (2016) supports this view and notes that few lesson studies in ITE programmes rely on collaboration between student-teachers and their mentors when pedagogical knowledge can be gained through the process of collaboration.

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