

2021

Primary PGCE with QTS

2102957

**[A CRITICAL EVALUATION
AND THE IDENTIFICATION OF
NEXT TEACHING AND
LEARNING STEPS FOCUSSED
ON A CASE STUDY OF AN
INDIVIDUAL LEARNER OR
GROUP OF LEARNERS, BASED
ON AN OBSERVED CRITICAL
INCIDENT]**

ECAD6007 Assignment

Introduction

According to Tripp's Critical Incident Methodology "a critical incident is an interpretation of the significance of an event. To take something as a critical incident is a value judgement we make, and the basis of that judgement is a significance we attach to the meaning of the incident" (Tripp 1993). These incidents are usually 'typical', 'everyday' events – that are not always negative – and are only deemed critical through analysis and reflection. Critically analysing a seemingly 'normal' event is important to practitioners in education settings because it allows one to reflect on a teaching practice and aid in the improvement and development of the service one provides their learners. This critical evaluation will begin by examining the role of critical reflection in relation to developing teaching practice and the role of teachers. Moving on from this, the school and class observation will be explored in the context of their relationship to the observed critical incident. Following this brief section will be a more in-depth analysis of the critical incident and its association to Donaldson's Four Purposes that are outlined in the new Curriculum for Wales 2022. There will then be a literature review focussing on areas of research that will provide a context for the critical incident that is being evaluated. Following this there will be a reflection, which will also discuss the use of reflective models to reflective practice, and an indication of potential 'next steps' regarding the development of both professional and personal development.

The Role of Critical Reflection

Critical reflection is an integral part of teaching, and without critically reflecting on one's own practice one cannot be an effective educator. Being critically reflective does not mean drawing out all the negative aspects of an experience, but rather praising and continuing the positive aspects, and altering the challenging aspects in order to improve. Being critically reflective in this way, "we formulate a critique of our practice and do not fall into the trap of becoming weighed down by the negative criticism and any kind of idea that we are never good enough" (Bassot 2016). Allowing ourselves to celebrate the successful parts of our teaching, we boost the confidence we have in ourselves and also the confidence other people have in us as teachers – being critically reflective is a process used to evolve teaching, and things cannot evolve without preserving the successful components. Bassot also discusses the idea of 'reflexivity' – the ability to see things that are influencing our thoughts, behaviours and actions, and that this idea prevents the conclusions drawn from practice being predictable. This idea of learning through experience is one mirrored in Piaget's theory of constructivism, which suggests that the production of knowledge and finding meaning in things is a direct result of experience – one can learn and evolve through experiences, both good and bad. Through experience a teacher is able to develop their own practice to become a more successful and effective educator, providing they reflect on the experience with a critical eye. One cannot be critically reflective without first thinking how to be. Kolb's model of reflective practice outlined four steps in an experiential learning cycle

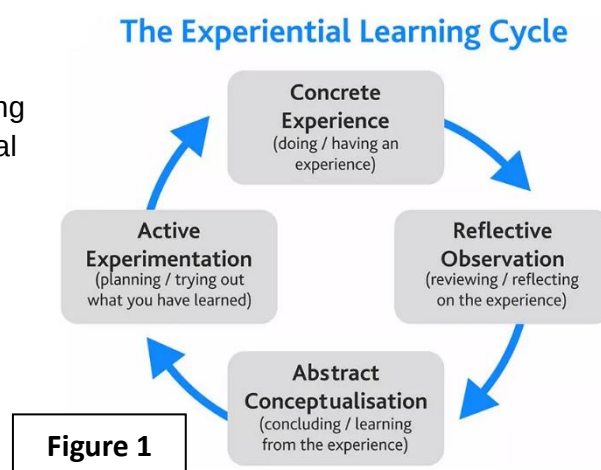


Figure 1

displayed in Figure 1. To be critically reflective, one must aim to complete the cycle, and in each cycle, one analyses and draws conclusions from the experience. Effective learning occurs as you progress through the cycle. Being critically reflective allows teachers to actively engage with the five QTS standards (EWC 2018) that ensure effective, successful, and efficient teaching practice. The first standard, pedagogy, is engaged with because your pedagogy changes with the final step of Kolb's cycle – active experimentation. Altered pedagogy is arguably the most significant way in which teaching practice changes after critical reflection has taken place. The second standard, professional learning is met because critically reflecting on your own work allows for continued career long education for you as a teacher. Innovation, another of the QTS standards is met, again during the last step in Kolb's experiential learning cycle – by planning and experimenting with new ideas as a way of improving teaching practice. One must collaborate both with colleagues and with pupils to create a successful and evolving learning environment, and to create an environment where feedback and pupil voice can be shared openly, therefore meeting the fourth QTS standard, collaboration. The fifth and final standard, leadership, will be met through critical reflection as a teacher is leading the learning by creating the experiences that will later be reflected on critically. Furthermore, critical reflection supports the new 2022 curriculum by putting the pupils at the forefront and creating a healthy and effective environment in which they can learn.

Observation – school and class contexts

The school that is being discussed is a small primary school located at the centre of a housing estate. The school has 184 pupils, including the pupils who are in part time nursery. An Estyn report from January 2018 reports that 6% of pupils at this school are eligible for free school meals, this number is far below the national average at the time which was 19%. The report also said that 'nearly all' of the pupils at the school were of a white British origin and there are no pupils enrolled who have English as an additional language. Estyn also reported that 10% of pupils have Additional Learning Needs (ALN), which again is far below the national average of 22% at the time, furthermore, there were 'very few' pupils with statements of Special Educational Needs (SEN) or that are looked after by the local authority (LAC). The report by Estyn gave the school a "good" rating ("excellent" being the highest, followed by "good") in the following categories – standards, wellbeing and attitudes to learning, teaching and learning experiences, care, support and guidance, and leadership and management. This report, although carried out three years ago, supports the impressions and facts given to me recently. The class I observed was a year six class who were of mixed ability and mixed gender. The class teacher was also the Deputy Headteacher of the school. The class teacher reported to me at the beginning of the placement that although the class were of a relatively high ability in comparison to other year six classes in the local area, they were the lowest ability cohort that she has had in several years.

Critical Incident Linked to Donaldson's Four Purposes

The critical incident I observed was organised physical activity during the first half of the morning – approximately 09:15-09:25. The children were doing spelling and handwriting practice; they were on task but were slightly chatty. There was a cover teacher due to the class teacher being in a meeting. The teacher told the children not to pack away their things and to line up by the door, the door opened onto the yard. The class went out onto the yard and formed a circle, the teacher then gave them activities to do – squats, popcorn jumps, bear crawls, side shuffling, running laps etc. When asked what the purpose of this activity was because it was not PE time, she said that having 10/15 minutes of physical activity helps the children to remain concentrated in class. The children build up energy when doing work and this morning activity helps to burn it off. These activities are a daily occurrence at the school for all year groups, weather permitting, and there is a visual timetable for the children to check on with their time slot on. I observed that there was a noticeable difference in the concentration levels of the class post activities – the class were less chatty than before, work levels increased and the general atmosphere in the room was more focussed.

One of the four purposes outlined in the new curriculum for 2022 is for pupils to be 'healthy, confident individuals' – this morning routine supports children in becoming this firstly because it promotes physical health in a way that is not centred around appearance, which is what society is currently trying to move away from. The children partake in physical activity and can physically see and feel the benefits of it. If children can see and feel the benefits of physical activity then it aids in the development of a love for it, children need to learn to enjoy exercise to maintain it throughout their lives. Secondly, the children's wellbeing is being positively impacted, the burning off of built-up energy helps with their concentration in class, helping them to avoid overwhelming their minds with schoolwork. Children find it hard to label feeling overwhelmed and find it hard to behave correctly when they're feelings are mixed up, and so whilst they're learning to do that, it is the job of the class teacher to prevent these feelings and to come up with strategies to deal with it. Furthermore, it educates the children on their emotions and taking part in these morning activities provides them with a coping mechanism/strategy for when they do feel overwhelmed.

Literature Review

The question of whether physical activity boosts academic attainment is a much-discussed topic – the observed critical incident of organised morning physical activity inspired further research into whether the activities were genuinely beneficial or not. The critical incident observation saw the noticeable difference in classroom dynamic, the class were seen to be more focussed and less talkative than prior to the activities. This idea is further cemented by a study exploring whether physical activity had a positive relationship with academic achievement. This study discussed how "PA [physical activity] might increase time 'on task' in class and reduce classroom 'problem behaviour'" (Booth, Leary, Joinson, Ness, Tomporoski, Boyle & Reilly 2014). Furthermore, the World Health Organisation (WHO) explored the idea that when children are engaged in self directed learning, they are always found to be moving around – engaging in physical activity (WHO 2021). Allowing children to

“behave according to their own nature” (WHO 2021) alters the classroom dynamic massively and a positive knock-on effect might even occur – given that increased MVPA [moderate-vigorous physical activity] at 11 years of age was associated with higher subsequent attainment in school (Booth, Leary, Joinson, Ness, Tomporoski, Boyle & Reilly 2014). Although evidence does not directly link PA, there are substantial claims that again suggest a knock-on effect for academic attainment. A trial seeking to find out the link of additional VPA (vigorous physical activity) with improved maths attainment assessed cognitive performance with tests of processing speed, visual relational memory, and core executive functions. These tests were previously shown to be sensitive to the effects of PA. (Wassenaar, Wheatley, Beale, Salvan, Meaney, Possee, Atherton, Duda, Dawes, & Johansen-Berg 2019). This same trial suggested that the evidence found would contribute to the growing portfolio evidencing the positive effects of PA on academic attainment. The critical incident supports this viewpoint as it was observed the quality of the pupil’s work was improving after the PA, as opposed to prior to it when work was becoming untidy and sloppy. This is further supported by the suggestion that “physical activity is beneficial for the development of cognitive, motor, and social skills... There is a knock-on effect on academic performance” (WHO 2021). The critical incident was also observed to help the children understand physical health as going beyond appearance, which is what the children see so much of on their social media platforms. It was discussed how promoting PA successfully was a crucial public health issue (Booth, Leary, Joinson, Ness, Tomporoski, Boyle & Reilly 2014). Furthermore, the critical incident was observed to be beneficial in promoting a healthy lifestyle for the future as well as the present day – children need to develop a love for physical activity in order to sustain it and adopt it as a lifestyle habit, this idea was also cemented by the 2014 study that schools require a much higher ‘stake’ in PA to make the kind of lifestyle changes necessary (Booth, Leary, Joinson, Ness, Tomporoski, Boyle & Reilly 2014).

As there is such a vast array of arguments in support of increased physical activity, there is very little research done to counter the argument – the primary argument for questioning the benefits of PA is to question the validity of the arguments themselves. The evidence stating that physical activity boosts academic attainment is not concrete – the trial itself said that “PA-academic achievement relationships is still unclear” (Wassenaar, Wheatley, Beale, Salvan, Meaney, Possee, Atherton, Duda, Dawes, & Johansen-Berg 2019). The theory cannot ever be properly proven. There are a wide variety of outside factors that aid in the increasing/decreasing of academic levels. For example, socio-economic factors, physical health that goes beyond physical fitness (illness, disability etc). Furthermore, one cannot guarantee that an academic boost observed or found in a study or trial isn’t a natural, organic progression/development. Each child, as is well documented, develops at different rates, there is no evidence to suggest the child will have their ‘lightbulb moment’ because of increased PA.

There are strengths and limitations for each of the three sources used to research the relationship between PA and academic attainment. The most prominent limitation is as mentioned before – the evidence found is not concrete, it is a mere estimation of causal links. However, both the study and trial were done on cohorts of a similar age to the one observed in the critical incident – the study had a cohort of 11 years old pupils, and the trial a cohort of year eight pupils (12–13-year-olds). This benefits the link between the research and the critical incident because the evidence found in the research can be accurately

compared to the class that was observed. Finally, the study and the trial were done in England, the critical incident was observed in Wales – where the new curriculum names Health and Wellbeing as an Area of Learning and Experience (AoLE). This does not bring into question the validity of the sources themselves, but rather questions to what extent, if at all, they are related to the critical incident. One may question whether PA is as large a focus in England day to day as it is in Wales. Therefore, questioning whether the independent variable would be as significant in Wales as it was in England.

The critical incident observed – the morning physical activities – appeared to alter the classroom dynamic. The children were more focussed and on task than before. It is much discussed how behaviour among children is largely associated with a healthy wellbeing. Children display problems with their social-emotional wellbeing (SEW) through attention seeking behaviours, which are most often negative behaviours. So, in relation to the critical incident – did the PA positively impact the wellbeing of the children, which in turn altered the classroom dynamic? It was recommended in a study that “taking a break from the classroom to complete 15 min of self paced physical activity should be considered a worthwhile activity by class teachers” (Booth, Chesham, Brooks, Gorely, & Moran 2020). This type of PA would make classroom management easier for the class teacher and would create a calmer working environment for the children. PA is believed to have a direct positive link with wellbeing for both children and adults, particularly during the 2020 COVID-19 pandemic where the wellbeing of the public was at an all time low. To cope with the physiological and psychological impact of the pandemic, people turned to PA as a form of self care to restore homeostasis – using PA as a form of self care has been consistently demonstrated to improve mental health (Wood, Barton, & Smyth 2021). As was found in the study, that showed that there was a significant effect of PA level during lockdown on scores for wellbeing (Wood, Barton & Smyth 2021). Although the participants in this study were adult, a similar pattern was found in 2020 – the study found that “fifteen minutes of self paced outdoor activity as beneficial for pupil’s cognition and well being” (Booth, Chesham, Brooks, Gorely & Moran 2020). SEW was also found to be impacted by BMI – and that low activity children experienced more SEW difficulties than the high activity children – with SEW being related to a child’s self-perception and their ability to interact with others (Noonan 2019). Furthermore, there are claims that PA in earlier life has an impact on wellbeing later in life. Noonan found that “in the long term, SEW difficulties effect academic achievement and mental health in adulthood” (Noonan 2019). In addition to this, PA has been identified as a protective factor for dementia – and that PA can even slow down the deterioration of people suffering with dementia (Mental Health Foundation). Moreover, PA during childhood produces changes in the brain that result in fixed behaviour changes (Wood, Barton & Smyth 2021) suggesting that if one exercises regularly during childhood – this will continue into adulthood, leading to a healthier and more fulfilling life.

Despite the overwhelming support for the idea that PA leads to a better overall wellbeing, there are claims that there is little to no evidence of an association. A cohort study found no strong evidence that PA is associated with better mental wellbeing or reduced symptoms of mental health disorder in adolescents (Bell, Audrey, Gunnell, Cooper & Campbell 2019). As in the previous discussion about academic attainment, there are no references to socio-economic factors that may contribute to the wellbeing of children – so arguments cannot ever be concrete due to the other host of factors that influence wellbeing.

The study from 2021, examining wellbeing in adults during the COVID-19 pandemic must have its validity questioned in relation to the critical incident because it is about adults, not 11-year-old school children. However, there are useful connections to be made, the pandemic has affected both the wellbeing of adults and of children, so the arguments made about PA healing the physiological and psychological impact of the pandemic are still relevant. Furthermore, the study carried out in 2020 examining the impacts of school based PA is very close in relation to that of the critical incident – both the study and the critical incident took places in school with roughly 15 minutes of PA. Despite this, the main limitation of the study is that it is about self paced activity, which is similar to a standard morning break time in a primary school, whereas the critical incident was not self paced and was more structured. The 2019 study exploring the relationship between BMI and wellbeing was limited in its association with the critical incident because it explored BMI rather than PA directly – however, BMI and PA are linked in some ways, so the study was still of use to the discussion.

Reflection, Evaluation and Next Steps

Being critically reflective, as discussed previously, is about reflecting on an experience, in this case, a critical incident. Reflecting on the errors/limitations in your practice allows you alter it to become more beneficial both to your learners and to yourself – being constantly critically reflective makes you a more effective teacher to your pupils. Being critically reflective however is not simply looking for areas to improve, it is about reflecting on the positive aspects of the experience so that you can continue that be successful in that part of your practice. Reflecting on both positives and negatives affords you the opportunity to flourish as a teacher and be the best teacher you can possibly be.

Throughout the process of observing critical incidents, I have shown myself to be a reflective practitioner through using Kolb's Experiential Learning Cycle. Step one of the cycle is 'concrete experience' – I have engaged with this step by involving myself in the critical incident itself, the morning PA. The second step is 'reflective observation' – I demonstrated my engagement with this step by conversing with the teacher and discussing the thought processes behind the activities. Step three is 'abstract conceptualisation' – engagement with this was done through researching deeper into the possible areas for exploration – exploring the impact of PA on the children's academic attainment and wellbeing, this was done in the form of a literature review. The final step of the cycle is to partake in 'active experimentation' – something I am doing by forming suggestions relating to the critical incident and exploring ways in which I can use them in my own practice when the time comes.

The first area that could be researched further, and even adopted in the school is the idea of self-paced activity in place of set paced activities. Research has shown that self paced outdoor physical activity has a positive effect on both the cognition and the wellbeing of pupils (Booth, Chesham, Brooks, Gorely & Moran 2020). Furthermore, self-paced activity may possibly lead to a less pressurised, less formal environment for the children to 'let off steam'. In addition to this, self-paced PA allows more room for interpretation and self-expression – therefore engaging with two of the four purposes of the curriculum. The children will be "healthy, confident individuals" by engaging in PA, and will be "enterprising, creative contributors" by expressing themselves through PA. Another area of potential

development is the increasing of focus on wellbeing in addition to PA to improve classroom dynamic. Wellbeing is not an enormous focus in my placement school so there are plenty of opportunities to incorporate it into their curriculum. For example, simple activities like colouring, board games, walking, reading, and doing puzzles are often calming to the mind and allow one to 'switch off' and relax, whilst also promoting discussion in a less formal, less academic centred way. Taking part in these sorts of activities makes school a more comforting and less daunting place for some children, providing them with a more relaxed environment that is not entirely dedicated to academic work makes them feel more at ease to discuss topics of a more sensitive nature if need be.

All the factors within this critical evaluation will greatly influence my own teaching practice and professional development. One of the major areas to consider during my teaching career is using strategies outside of the classroom to improve classroom management. The central focus of the critical incident was the impact physical activity had on classroom dynamic, which implicated classroom management. The teachers at the school decided to target classroom management from outside of the classroom which was interesting to me largely because it is often assumed that to improve your classroom management you must stay in the classroom itself. Furthermore, this process has demonstrated to me the different factors that contribute to classroom dynamic – not enough physical activity, poor wellbeing, negative behaviour, and work overload, these four things are interlinked. The third thing I will take with me into my teaching career is the idea that one activity, in this case PA, can have multiple purposes, like to improve wellbeing, to keep fit and healthy, and to have a healthier classroom environment in which to work.

Conclusion

The curriculums for Wales are constantly changing, and with it the role of teachers is changing too. Teachers now play a huge role in a child's life, teachers not only teach academia, but they become actively involved in moulding a child to become the four purposes of the curriculum – healthy, confident individuals, ambitious, capable learners, enterprising, creative contributors, and ethical, informed citizens (Donaldson 2015). Being a reflective teaching practitioner means that you evolve with each new curriculum, providing your pupils with the best service possible. The five professional teaching standards aid in the critical reflection element of teaching practice. Four of the standards – pedagogy, innovation, leadership, and collaboration – link with the fourth step of Kolb's experiential learning cycle (active experimentation), and professional development encompasses the whole cycle, to ensure all teachers are critically reflective practitioners and to ensure all learners in the country have effective education.

Appendices

OBSERVATION / FIELD NOTES

Record 1

Date and time, year group:

22.0.21, 09:15am-09:25am (approx), year six

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

Just after spelling and handwriting practice, class were on task but slightly chatty. Yard located directly outside the classroom, accessed through fire door.

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

The cover teacher (main teacher in meeting) told the class not to pack away and to line straight up by the door. The class then went onto the yard and formed a circle where the cover teacher gave them activities to do – squats, popcorn jumps, bear crawls, side shuffling, running laps etc.

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

When asked what was going on, the cover teacher said that it helps to keep the concentration in the classroom as they burn off some of the energy that has been building up whilst doing work. The children were quite relaxed after the activities

Research:

- Do children perform better after physical activity?
- Does physical activity influence a child’s wellbeing?

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)

The yard activities are a daily occurrence for all classes (weather permitting). There was a timetable on the door for the class to see when their turn was. The activities, although organised and instructed, were an opportunity for the children to go a little ‘crazy’ and ‘get it all out’ of their system ready to resume classroom concentration.

Record 2

Date and time, year group:

22.09.21, all day, year six (but whole school approach)

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

- General, whole school approach
- Not limited to Welsh Lessons – Welsh fits in to all aspects of the school day

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

Helpwr y Dydd (x2)

Counting in Welsh

“Bore da/prynhawn da, pawb”

“Cinio heddiw”

Trying to make Welsh more of a cross-curricular skill, not just an academic subject.

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

The class teacher spoke to me about how in general, of all the subjects, Welsh has (arguably) been hit hardest by COVID-19 because parents couldn't help them with at home learning.

Research:

- Why do parents struggle with helping with Welsh work?
- Why is Welsh a ‘less important’ subject?

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)

The children are inadvertently improving their Welsh language skills just by adopting the daily routines. The teacher are making Welsh less of an ‘event’ and integrating it into the curriculum constantly.

Record 3

Date and time, year group:

23.09.21, 08:45am-09:05am (approx), year two

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

Quite a busy classroom environment and fairly chaotic, but with a sense of focus and direction. The class teacher in and out of the room (TA remains in class) dealing with parents/crying children/general morning queries.

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

All of the children (generally) know the routine and get on with whatever activity their group is on that morning. Rotational groups, changes daily. The groups/activities are on display for the children to go and check. Two groups with adult support (teacher and TA), two groups working independently.

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

Teacher said that she tries not to get too involved to try and prepare them for KS2 (year three) where they need to be more independent. It also gives her time at the beginning of the day to sort out parental inquiries.

Research:

- Do children need more independence skills?

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)

Activities vary week to week depending on the topic the children are working on. The teacher noted how the children in year two are “COVID children” – they missed a lot of reception and year one due to the pandemic, the first two years of school is where education truly begins, and they’ve missed out on learning important life skills (independence, social skills, oracy skills etc)

Reference List

- Bassot, B. (2016) *The Reflective Practice Guide: an interdisciplinary approach to critical reflection*. New York: Routledge.
- Bell, S.L. & Audrey, S. & Gunnell, D. & Cooper, A. & Campbell, R. (2019) The relationship between physical activity, mental wellbeing and symptoms of mental health disorder in adolescents: a cohort study. *International Journal of Behavioural Nutrition and Physical Activity*, 16.
- Booth, J.N. & Chesham, R.A. & Brooks, N.E. & Gorely, T. & Moran, C.N. (2020) A citizen science study of short physical activity breaks at school: improvements in cognition and wellbeing with self-paced activity. *BMC Medicine*, 18(1) England: BioMed Central Ltd.
- Booth, J.N. & Leary, S.D. & Joinson, C. & Ness, A.R. & Tomporoski, P.D. & Boyle, J.M. & Reilly, J.J. (2014) Associations between objectively measured physical activity and academic attainment in adolescents from a UK cohort. *British Journal of Sports Medicine*, 48(3), pp. 265.
- Donaldson, G. (2015) *Successful futures: independent review of curriculum and assessment arrangements in Wales*
- Education Workforce Council. (2018) Code of Professional Conduct and Practice: for registrants with the Education Workforce Council (EWC) [online]
<https://www.ewc.wales/site/index.php/en/documents/fitness-to-practice/1754-j16540-ewc-code-of-professional-conduct-e-web/file.html>
- Estyn. (2018) *Inspection report [REDACTED] Primary School 2018 (English only)*
- Kolb, D.A. (1984) *Experiential Learning: experience as the source of learning and development*. London: Prentice-Hall.
- Mental Health Foundation. *How to look after your mental health using exercise*.
- Noonan, R.J. & Fairclough, S. (2019) Cross-sectional associations between body mass index and social–emotional wellbeing among differentially active children. *European Journal of Public Health*, 29(2). England: Oxford University Press.
- Tripp, D. (1993) *Critical Incidents in Teaching: Developing Professional Judgement*. Routledge.
- Wassenaar, T.M. & Wheatley, C.M. & Beale, N. & Salvan, P. & Meaney, A. & Possee, J.B. & Atherton, K.E. & Duda, J.L. & Dawes, H. & Johansen-Berg, H. (2019) Effects of a programme of vigorous physical activity during secondary school physical education on academic performance, fitness, cognition, mental health and the brain of adolescents (Fit to Study): study protocol for a cluster-randomised trial. *Trials*, 20(1). England: BioMed Central Ltd.
- Welsh Government (2022) *Curriculum for Wales* [online]
<https://hwb.gov.wales/curriculum-for-wales>
- Wood, C.J. & Barton, J. & Smyth, N. (2021) A cross-sectional study of physical activity behaviour and associations with wellbeing during the UK coronavirus lockdown. *Journal of Health Psychology*.
- World Health Organisation. (2021) *WHO reviews effect of physical activity on enhancing academic achievement at school*.