

Critically discuss the Enquiry Based Learning (EBL) approach that can be used as part of a range of teaching and learning approaches in the primary school. In your discussion, refer to examples of EBL strategies and techniques that you would use to develop learners' knowledge, understanding and skills in aspects of the humanities and science in the primary school.

The aim of this essay will be to consider what is meant by Enquiry Based Learning (EBL) as a teaching approach within the primary classroom. Included will be a discussion on differing strategies and techniques that are used within the approach to develop young learners' knowledge and understanding; as well as this there will be examples of a range of possible models to use while promoting EBL within the humanities or sciences. As the essay is centred around EBL on a whole, another aim will be to consider the benefits and challenges of using the approach and eventually conclude whether it is an appropriate method to aid teaching and learning. Within the main body there will also be an exploration of one way that EBL could be used within the classroom. This will involve a description of what learners and practitioners could do when answering an overarching question using strategies linked to EBL and, as a student teacher, consider certain ways to encourage learners' creativity and increase engagement in relation to subject specific activities.

Enquiry Based Learning is an approach that's main goal is to encourage children to play an active role in their learning. One of its main areas of focus is encouraging the child to consider what it is they want to learn, how they could find information from differing resources as well as allowing learners to discuss their ideas and produce questions related to their main topic which they are enthusiastic to find answers to (Cox, 2013). Guido (2017) defines EBL as "a learning and teaching method that prioritizes student questions, ideas and analyses"; while Harlen (2009) similarly states that EBL is a learning process in which "enquiry skills are used to gather evidence to test whether certain ideas can explain phenomena and events in the world around us". Kahn and

O'Rourke (2004) identify important characteristics of EBL as students leading their own learning, pupil engagement, activating and expanding prior knowledge and developing life skills such as critical thinking and team work further. This approach fits into the constructivist learning theory and encompasses theorists such as Dewey's (1938) views on the concept that children learn by doing and having an active role in their learning; he also believed that in order for the learner to engage with a task fully, an interest in the matter must first be found. This suggests that not only should learning be of interest to the pupil but they should also be involved in the decision making processes about what areas of a topic they will focus on in order to ensure learning doesn't begin to seem mundane; this supports aspects of EBL. "For the learning process to be productive the learner must first take ownership of the ideas. Until this happens the learner's engagement remains superficial, and 'deep learning', the type that is sustained, which can be applied to new situations and developed further, remains beyond their grasp" (Lakin, 2013, p. 6).

There are several benefits and challenges related to EBL; when facilitating pupils' learning, a practitioner is creating a supportive environment in which learners can feel comfortable to discuss and share ideas. This is an important aspect to consider when using EBL in a classroom as Black and William (1998) suggest that if each child does not feel comfortable enough to share ideas, due to a fear of making mistakes, then only a few confident members of the classroom will participate actively. In order for EBL to work successfully each child should feel comfortable and participate or they will gain far less from the experience (Cox, 2013). It has been suggested that participation in group or classroom discussions should be compulsory in order to make learning more memorable and engaging for the pupils (William, 2011). Robinson (2015) claims that the ability to express ideas and communicate with your peers encourages creativity and pupil engagement. Creativity is taking a much larger role with the introduction to a new curriculum and is beginning to be seen as an essential life skill that should be developed whenever possible (Cutting and Kelly, 2015). Another benefit of using EBL in

the primary classroom is the ownership pupils are able to take of their learning through numerous practical activities; this leads to a higher level of engagement and a higher likelihood that learners will apply themselves (GradePower Learning, 2018). “Children and young people want lessons to be relevant and engaging, with more practical lessons, more fun, more interactivity, and more out-of-classroom activities” (Donaldson, 2015, p. 17).

A disadvantage of EBL is that although, in some forms, it can be adapted to many subjects, it best works within the sciences and humanities and can be difficult, near impossible, to use in particular situations (Little, 2016). Although this is the case where it is able to fit, it does so with ease. While referring to science related learning Donaldson (2015, p. 50) notes that this “area of learning and experience capitalises on children and young people’s curiosity about our natural, physical world and universe through investigating, understanding, and explaining. They learn to generate and test ideas, gather evidence, make observations, carry out practical investigations, and communicate with others”. EBL often enhances a child’s curiosity about a topic and therefore leads to an improved experience in relation to their learning; as well as this within one EBL project there can be links to numerous different areas of the curriculum and often a pupil will develop many of their essential life skills, such as communication, cooperation and critical thinking throughout the process (GradePower Learning, 2018). However, if the practitioner is not fully prepared to facilitate learning and help guide learners who are having difficulty with the approach it can be very difficult to effectively utilize the approach. Unless there is a teacher readily available who understands what is required of them and scaffolds learning by using techniques such as questioning, supplying useful resources or guiding pupils in a worthwhile direction then pupil engagement may fall; in addition to this, learners may become uninterested in activities, lose focus and waver off task (Little, 2016).

There are numerous models used to promote the use of EBL in the humanities which will be considered below; the majority of which share many similarities to the models used within science enquiry. The first one that will be mentioned is the 'S' model - local area study. Grigg and Hughes (2013) name the four steps taken within this model as select, search, sift & synthesise and share; it is likely learners will be presented with a hook to engage them with the topic which is related to their community or local area, an example of an overarching question used may relate to a castle if there is one within the local built environment or perhaps related to mining. "Successful EBL should not only develop pupils' local knowledge, thinking skills and respect for the environment, but also enable them to show responsibility, independence and an eagerness to find out more" (Grigg & Hughes, 2013). Another option would be the 4 stage model 'the investigative cycle' which include the stages generate, do, analyse and reflect. This model is similar to the previous as it often promotes learning outside of the classroom and suggests that fieldwork or trips related to the topic increase pupil engagement and will lead to a growth in learners' curiosity (Samuel, 2009). The enquiry and questioning model mainly focuses on an overarching question and how best to use questioning as a facilitator as well as things the questions of learners may lead them to (Pickford et al., 2013). The five stages of enquiry model has five stages to cover formulating questions, planning the enquiry, conducting the enquiry, conducting enquiry then comparing and analysing evidence, presenting findings and reflecting and responding (Ofsted, 2010). This is often used for EBL related to religious education with an overarching of the kind 'what religions are represented in our neighbourhood?'. Finally, there is the six stage enquiry framework. This model is made up of six steps including raising questions, collecting and recording information, processing information, drawing conclusions, sharing the findings, evaluate (Scoffham, 2014). Although each of these models have differences they each have many similarities. On average the process begins with generating the overarching question or questions the class wish to look into further. The learners are often presented with something designed to draw them into the topic such as a resource or artifact to view. In each case the practitioner is simply there to facilitate the learning

and guide when needed while the pupils lead their own learning. In addition to this many of the models state the benefits of using the outdoor environment, whether it be local, or a school trip in order to engage the pupils and give them the opportunity to see or learn about their ideas first hand. Keighley (1998) claims that when learners take part in practical, hands on tasks or work in the outdoor environment it results in their knowledge and understanding of the work expanding as things become more vivid and clear to them; it was also suggested that hands on experience can add to the development of learners' personal and emotional wellbeing. The models then continue on to the stages in which learners do their research, analyse, share their findings and reflect on what they have discovered.

In order to consider how to use EBL within the primary classroom there will now be an example of how it can be incorporated into a subject or theme used as a class. This particular example will focus on a science project within Key Stage 2, specifically a year 5 classroom. Turner, et al. (2011, p. 11) notes that "science enquiry is what children do in order to answer scientific questions about the world around them". While using an EBL approach during teaching and learning, as aforementioned, it is beneficial to have an overriding question that pupils are intending to work from. The teacher in this scenario is a facilitator to the learning and therefore will encourage the pupils to be actively involved in the process and lead the learning themselves (Little, 2016). Although this is the case the teacher may still guide pupils in the right direction and ensure the tasks taking place are productive (Williams, 2003). Usually learners should decide their overarching questions themselves, this can result in pupils feeling more engaged in the subject as they are choosing what they want to learn and enjoy being involved in the decision process (Lakin, 2013). This has a strong link to the introduction of the new curriculum that emphasises the importance of child-led learning. "At this time of transition a shift in emphasis from teacher-led to child-led enquiry may support the development of new pedagogic practices that better align with children's natural dispositions of playfulness and curiosity, facilitating their greater engagement in science

by stirring their passion” (Myers et al, 2016, p.20). Although this is the case if the learners have little to no experience with EBL it can be beneficial if the practitioner helps guide them to a question until they have more experience with the approach (Cox, 2013). As a year 5 classroom, it is likely pupils will have previous experience with EBL and should therefore need less guidance. "If children know about the different types of enquiry, then they can make decisions about which will be best in different situations” (Turner, et al., 2011, p. 14). For this example it will be supposed that the learners have chosen the question ‘How do living things survive in their habitat?’ to do work on.

The first step in this process as a practitioner could be to consider how the learners prior knowledge on the subject will be activated and developed during the course of the topic (Ward, 2007). If it is unclear how much the pupils already know in relation to the subject, assessment for learning (AFL) is a useful tool to use in order to find out. The questioning technique within AFL can be an extremely beneficial instrument to use as a practitioner in order to determine what level of knowledge and understanding learners have on a topic; it is also a useful technique to use in order to monitor the progress of pupils in the classroom and a way of observing whether or not the work taking place is benefitting the learning process (William, 2011). By doing this it is possible to consider what can be done as a practitioner to scaffold the pupils learning in the best way possible. With this particular topic it may be useful to do one lesson before beginning to work on the question itself. That lesson would be on habitats in general and a discussion on what learners already know. As an activity the pupils could consider what humans need to survive and in groups make a list of things that make up our surroundings and environment. This list could then be split into two groups, things that humans need to survive and things that we have but do not need, in other words a comparison of needs and wants. By doing this in relation to humans, learners will be able to develop an understanding of the word habitat as the natural environment of an animal or organism and later, while doing work on the question, they will be able to consider what they need to survive in comparison to other species they look into.

Making ideas more personal and engaging may help the pupils remember what they are learning (Sharp, et al., 2014).

While using EBL within a project it is important to consider the planning, developing, reflecting skill cycle of science enquiry (Lewis, 2019). The first step within EBL may be for the children to consider the overarching question and decide what they would like to research in relation to it. The question within this example is very broad; it would be far too difficult for the learners to focus on every living thing and answer the question in relation to them all. Because of this before learners begin to plan their research they will first consider what they specifically want to focus on (Howe, et al., 2009). When using the Michael Storm five question model within EBL, also known as the generic enquiry model, stage one of the process is classed as the formulation of questions in which the practitioner may guide learners to decide what they would like to know about the chosen field and agree as a class about what enquiries will be made (Storm, 1989, cited in Scoffham, 2014). This project will incorporate the generic enquiry model as well as the plan, develop, reflect model.

It is possible that the year 5 class decide to focus on animals rather than plants or other living organisms during stage 1, however this is still a wide topic to cover. When it has been decided what living thing the learners would like to focus on the teacher could ask the question 'what animals would you be interested in learning more about?'. When there is a list of four to five different kinds of habitats or different kinds of animals that the children are interested in, the teacher can scaffold the learning by splitting the primary classroom into groups to begin their initial research. Each group would focus on one habitat they were interested in learning more about and present their findings to the class. After hearing the information each group has collected, the class will decide what they would like to do more detailed research into. This means that although the science project will mainly focus on one group of animals or a particular habitat, the learners will also have some insight into four to five different habitats before truly beginning their

specific enquiry. While they are researching these in their groups the practitioner could help develop the learning by providing QR codes to each group leading to useful websites, videos or resources online related to their particular habitat. As well as this the practitioner could provide images of habitats for learners to make notes on and develop their ideas and understanding of how they may look. As a practitioner attempting to facilitate learning it is important to observe how the learners work (Ward, et al., 2008). While using EBL it is possible to differentiate work by splitting learners into groups that will be researching differing areas of their overarching question. Another option would be for the practitioner to choose to split children into mixed ability groupings in which the higher attaining learners can help scaffold the tasks for pupils who require more support. Some would suggest that this isn't beneficial and that the higher attaining pupils aren't reaching their potential however it has also been argued that helping peers understand a concept or task leads to the learner developing a deeper understanding themselves which will be more likely to be remembered (Ofsted, 2013).

When learners have decided what area they would like to focus their attention on, in this case it may be the topic of minibeasts and their habitats, they can begin planning; this is stage two of the chosen model (Storm, 1989, cited in Scoffham, 2014). Within the first session on the chosen area of work, learners should consider what they already know about the topic and start discussing what they would like to learn. A useful way of doing this would be for pupils to take part in think, pair, share with a partner and use post it notes to write briefly what they already know and what they would like to find out. This gives the practitioner an opportunity to become aware of the learners prior knowledge (Peacock, et al., 2007). According to Little (2016) activating prior knowledge within the classroom is a useful tool when trying to encourage and engage children with their work. When prior knowledge is activated and developed children can make connections to what they are finding out and what they already know; this may help interest and intrigue them about the subject. When their curiosity grows it is more likely for learners

to store the information they find and think of interesting ways to research what they want to know in regards to the question. Within the EBL approach it is important that children come up with ideas about what they could do to develop their understanding of the overarching question. By deciding what resources they would like to use while gathering information, what they would like to observe, where they could go to learn more about habitats and how they should go about recording the data they find, pupils are becoming independent learners who are taking an active role in their education. Because of this, pupils are likely to develop a deeper knowledge and understanding of the work being covered (Primary Science Teaching Trust, 2017).

Now that the learners have an overarching question and know more specifically what they would like to focus on, it is time to plan their enquiry and consider what they would like to research within this particular topic. Within this stage it is useful for the practitioner to suggest the pupils make a success criteria to look back on during their research (Lewis, 2019). This can be done as a whole class discussion. Pupils could then work in groups with a carousel rotation of resources in front of them. This is useful as it means the learners are having the opportunity to look at a variety of resources in order to decide what they would like to research further and make notes on possible outcomes. Resources the practitioner may have supplied could include ICT, books, images, QR codes and a tray containing a form of minibeast such as a worms in earth. While pupils are using this resource they could make notes on what they predict the minibeasts needs within its habitat to survive. This is also likely to engage learners and act as a tool to draw them in to the task and increase their enthusiasm to continue work on the topic. Learners could then make predictions on what kind of habitat 6 different minibeasts would live in to survive in order to compare their results to when they are coming to the end of their enquiry.

The third stage of the general enquiry model is conducting the enquiry, the things done in this stage overlap with the developing stage of the skills cycle of science enquiry.

This stage is very specific to what learners have decided they want to research in the planning phase of their enquiry. There were many paths that could have been followed with this topic, examples of these include:

- Researching and visiting a variety of habitats inhabited by certain minibeasts and make observational notes on what different minibeasts need within their habitat in order to survive.
- Learners may have decided to identify and classify minibeasts with a key they created and find out whether these classification keys have an impact on the habitat the minibeast lives in. The key and observations they may have made could then be used to identify whether or not there were any patterns in their findings.
- Go on a trip to a local pond in order to catch, observe and return minibeasts to the pond. Compare the minibeasts they found in water to the ones they have found on land. Consider notable differences in their requirements.

Within any of these activities the learners would be researching, observing and collecting data from multiple resources and different areas while the practitioner facilitates the learning by using different methods such as AFL techniques like questioning. As well as scaffolding and guiding the learning when necessary the practitioners' role is to observe the learners and identify how well they are using skills such as critical thinking (Primary Science Teaching Trust, 2017). By monitoring this when possible it becomes possible to make note of how much the learners' knowledge and understanding as well as thinking, cooperation and problem solving skills have developed over the course of the enquiry (Guido, 2017).

The fourth and fifth stages of the enquiry include learners presenting their findings and reflecting on what they have found (Storm, 1989, cited in Scoffham, 2014). When learners reach these stages they will look back at their previous predictions and see

what differences they came across while researching. It will also be beneficial to look back on the success criteria originally created to decide whether or not they were successful in discovering what they set out to. “Children solve a problem, answer a question, develop an explanation, make and evaluate an artefact or system, provide evidence to justify why the outcome is appropriate, or raise more questions to investigate” (Turner, et al., 2011, p. 12). Finally the practitioner can guide learners to consider what they have found and link it to other areas. When the class have completed their enquiry work on this topic they could then consider the impact humans have on different habitats and what kind of effect we, as a species, have on the environment. This could then lead to an infinite amount of EBL projects related to the topic of sustainability. EBL is also useful for cross curricular teaching, either during or after the enquiry has been completed. When learners have finished their research they will more often than not have a lot of new information on the subject to share. This information could then be used to create a presentation in which they are practicing their oracy and writing skills. Or perhaps they write a report on the topic or create a habitat leaflet filled with information on the data and observations they collected.

To conclude this essay there will be a summary of the aforementioned information about EBL as an approach to teaching in the primary classroom. Throughout this essay it has been underlined that EBL has many benefits and challenges. Although this is the case it has become clear that the benefits of using the EBL approach seem to outway the difficulties the practitioner or learners may encounter during the process, especially when it is executed well by the practitioner and learners understand what they need to do. Collaboration is a key element of life and education that can be developed in so many ways when using EBL, this creates numerous opportunities for learners to expand their communication skills and get used to working as a part of a team which is an essential ability to have in later life (GradePower Learning, 2018). One of the main concerns around the topic is the worry that learners will simply not stay on task when given the freedom to take an active role in their learning and be so directly involved in

the decision processes within their education. However, it has been noted that if a practitioner has prepared the pupils well and they fully understand the approach, the opposite effect will be produced (Guido, 2017). Another important aspect of ensuring the tasks taking place are as productive as possible is to set expectations as you would within a normal lesson. With guidance and the knowledge of what is expected of them, learners will often act in a respectful manner while regarding their peers and their teacher as well as the work they are producing (Loxley, et al., 2014). It is far more likely that learners will become engaged in the work undertaken rather than uninterested while using the EBL approach as children often find tasks more relevant when they have been able to input ideas, questions and conduct their own research (GradePower Learning, 2018).

Overall the EBL approach can be considered an important, useful and advantageous strategy which is well worth implementing within the primary classroom. It is an approach that can be easily adapted to each classroom depending on the experience or pace learners work at (Cox, 2013). When children are deciding what to find out, how to undertake their research and how to reflect on their data within the work they are doing, it can often feel more rewarding to them as they are structuring the way they are learning themselves. As well as this they are gaining many transferable skills including how to work well with their peers but also independently. The work they are undertaking is more often than not guided by their own thought processes and ideas with EBL. The approach can be used from something as small as warming up the class with a short activity to encourage learners to absorb information, all the way to a project that runs for an entire half term. It often gives opportunities to introduce relevant content from multiple areas of the curriculum and develops learners' knowledge, understanding and skills well on a whole. Enquiry Based Learning is practically the opposite of didactic teaching in which the practitioner is the one in control of every aspect of learning and often talking at the learners rather than allowing them to have an active role.

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