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Abstract

This paper demonstrates the evolving nature of qualitative field research and is structured upon themes emerging from the data. Following an initial critique of concepts, data was collected progressively at Bikeability training events in a primary school through observations of cycling practice, interviews with parents and questionnaires with children. The research developed from an initial curiosity about cycle training and its effectiveness to reduce accident rates, progressing to investigating parents’ attitudes to Bikeability and whether the cycle training has a positive effect on children’s learning experience, not least their ability ride a bicycle. The researcher also discovered that Bikeability has potential to improve a child’s understanding of a range of concepts encountered across the school curriculum such as mechanical understanding and forces, as well as developing self-confidence, vigilance and awareness to be safe on the roads. Interestingly, it was observed that varying degrees of parental support for Bikeability had a significant effect on children’s ability, interest levels and cycling habits than first anticipated.

Introduction

This paper stems from primary field research into experiences of Bikeability training in the school environment. Data is incorporated into the text whenever possible to demonstrate its [high] status in research and relevance to the topic; data leads the story. It also re-affirms the social presence of people in research and its importance in directing field work engagements, i.e. signalling new data collection strategies. At the end of the paper there are a series of appendices containing; Bikeability checklists, consent forms, transcripts, notification letters, field notes and curriculum development ideas, all of which inform the reader of the developmental path this research has taken as well as some ethical considerations for fieldwork practices. In essence, the appendices help to establish a trail of evidence towards the discovery of cycling as a vehicle for curriculum design – a theory that was emergent but grounded in the data.
An early curiosity to kick-start the study was to consider whether Bikeability is having an effect on reducing cycling accidents in the UK. However, while some statistics on this topic are discussed later in this paper, the results or interpretation of them is inconclusive at this stage, i.e. a statement of whether Bikeability is reducing accidents or cycling related deaths is not possible. However, the question of what children might learn from learning to ride a bike, particularly in a school environment, was very interesting indeed and seemed to yield many fruitful concepts; leads that might be explored with pedagogical interest in an educational context. This was the focus of some early critique of the initial research idea which is captured in figure 1 below.

**Figure 1.** Mind-map of initial ideas, ‘what do we learn from riding a bike?’ A critique of concepts and possible avenues to data collection in the field.

In the first author’s experience, Bikeability courses are normally offered to children in Years 5/6 in Primary schools, i.e. 9, 10 and 11 year olds. Typically, at this age there is a great deal of physical experimentation and learning taking place that crucially, learning to ride a bike might foster and reinforce. Consequently, some ideas emerging from Bikeability as an active pedagogy were:
• Fostering **independence** and developing a sense of **freedom**
• Promoting **play**, **exploration** and **adventure**
• Developing awareness for **personal safety** and **vigilance** of/for others
• **Social** factors from **health promotion** to **friendship** and **shared experience**
• Experiencing/controlling **balance**, **weight transfer** and **anticipation skills**
• Developing a **mechanical understanding** – cogs, links, forces and efficiency, experimenting with **practical physics**; weight, speed, friction, momentum, centrifugal, tension, energy, mechanical advantage and power.

These concepts were ‘food for thought’ as to what cycle training might actually be teaching children alongside the hard skills training checklist of ‘can do this’ or ‘can’t do that’ (see appendix 1 Bikeability Proficiency Checklist). So, even at this early stage of the project, ideas were evolving and changing course towards some discovery, away from that of accident prevention and towards active learning in education. Thus the research question could now be couched as:

*What is the value of learning to ride a bike as an integral part of a child’s education? (and therein, Bikeability’s vital role in education)*?

Steering our wheels carefully through the history of cycling, selectively pitched in relation to our project, there is some valuable literature on standards of training before heading into the field for a rich blend of data, interpretation and inference about Bikeability. Some interesting discoveries were made along the way; we hope you enjoy the journey.

**Padlocks off, helmets on – welcome to cycle training**

Cycling is a popular means of transport, exercise and recreation for young people worldwide (MacArthur et al., 1998). However, in 2011 the UK saw, 192 people killed or seriously injured in road accidents (The Department for Transport, 2011). These figures are grossly underestimated as many cycling incidents often go unreported (Mills, 1989; James, 1991). Having cycle training within education is a key component that differs between safe and less safe countries (Pucher, Dill and Handy, 2010), thus cycle training schemes have been introduced to reduce casualty numbers and increase knowledge and cycling skills. The Department for Transport launched Bikeability in 2007 as *Cycling Proficiency for the 21st Century*.

Bikeability is part of the ‘mass participation objective’ and is underpinned by a National Standard of cycle training. This is an outcome-led scheme and is built upon similar principles to training for motorcycle riders and car drivers. The scheme teaches children the importance of awareness, observation and assessing risk factors. Training the younger generation ensures that the life-long skills of safe cycling are instilled, while encouraging a healthy lifestyle, boosting confidence and developing
independence (British Cycling, 2012). There are over 100 private organisations delivering Bikeability training to nearly 120,000 children. The private organisations deliver almost 50% of the total number of Bikeability places delivered annually in England (Association of Bikeability Schemes, 2014).

Cycling can be perceived as a dangerous activity and has been a significant factor that discourages people from taking it up (Pettinger, 2012). By treating cycling as a risky activity requiring specialist clothing and equipment, even well intentioned efforts to promote it may be futile. Fear of cycling has in fact driven huge numbers of cyclists off the roads based on the perceptions of risk, injury and accidents (Hillman, Adams and Whitelegg, 1990). However, motorists are statistically less likely to collide with a person cycling or walking than they are another car or obstacle (Jacobsen, 2003). If more people cycled, other road users might become accustomed to cyclists and know how to share the roads with them.

The National Standard

Launched in 2005, the National Standard was developed by over 20 organisations and is maintained by the Department for Transport. The National Standard is promoted by Bikeability and any organisation wishing to use the materials and branding related to Bikeability and the National Standard must be part of a quality assurance process. This ensures each organisation is delivering good practice in their cycle training. Bikeability training can only to be delivered by National Standard Instructors (NSIs) who have successfully completed a Department for Transport recognised Instructor training course.

Bikeability

Funding has been allocated to local highway authorities and schools across the country for the national Bikeability scheme. In 2007 the funding for Bikeability was £3 million. This increased significantly to £11 million in 2011 (Department for Transport, 2011a). The Department for Transport have also allocated a further £24 million for Bikeability over the next two years (13/14 – 14/15). This includes an extra £2 million to support expansion of the scheme in Scotland, in addition to the money originally earmarked for Bikeability (Transport Scotland, 2014).

There are three Bikeability levels, each level being designed to help improve cycling skills (see appendix 2). Levels 1, 2 and 3 take trainees on a journey from the basics of balance and control, all the way through to planning and making a journey on busier roads. Most training occurs during school time with children aged 9–11 and teaches them to cycle consistently, competently and confidently (Frereson, 2013). According to the latest National Travel Survey data only 1% of primary school and 3% of high school children cycle to school (NTS, 2013). Bikeability is designed to give children the skills and confidence to ride well and to give their
parents reassurance and confidence in their child’s ability. The aim is to increase the number of children cycling to school on a daily basis.

The Department for Transport (2012) predict more than 1.5 million children will receive formal Bikeability training by March 2015. With over 100 organisations delivering Bikeability each scheme must uphold and maintain a system of internal quality assurance to monitor and improve the quality of training being delivered. Prior to any form of training the organisation must receive confirmation from the school (appendix 3) inviting the instructors in during school time to carry out the training. Each child taking part in the scheme must have a signed consent form from a parent or guardian (appendix 4) which is accompanied by a letter of explanation to parents about the scheme (appendix 5). Organisations provide written information for the parents outlining exactly what the scheme involves, what clothing is required to take part and the bike safety checks that will be learnt. To deliver Bikeability the instructors must have a National Standards Instructors Number (NSI). They must also have a higher-level Criminal Records Bureau check and hold a first aid qualification. Each instructor will carry out a risk assessment at the school before the training, but also make on-going risk assessments during the training to ensure the safety of the children.

Rewarding trainees is very important to maintain interest and motivation during the training session and to encourage children to continue cycling once the course has finished. On successful completion of the course all children receive an award (Department for Transport, 2011) which includes a badge and a certificate (figure 2).

![Bikeability Awards](image)

*Figure 2. Bikeability Awards: recognition of training, proficiency and attainment.*
Cycling through history

Formal cycle training started in 1947 however its roots began in the 1930s when cycling organisations wanted to include their activity in schools’ curricula (RoSPA, 2001 [The Royal Society for the Prevention of Accidents]). Whilst there have been many different manifestations of cycle training since then, the first inclusive cycle training evaluation came in 1976 by The County of Hereford and Worcester, and was titled Children and Cycling: The Effects of the National Cycling Proficiency Scheme (NCPS) in the County of Hereford and Worcester. This document outlined that theoretical study alone could not improve cycling performance or safety. Following this, a study by Wells, Downing and Bennett (1979) examined the Comparison of On-Road and Off-Road Cycle Training for Children. They concluded that training both on and off-road had positive effects on children’s abilities, but that the best training method was on-road which appeared to have lasting effects of up to 6–8 months. Savill, Bryan-Brown and Harland (1996) also found that practical cycle training improved knowledge and cycling skills more significantly than theory based training in children and they espoused that the effects of practical training could last for up to two years. The majority of these studies have focused solely on children’s knowledge, attitudes and observed behaviours, with little or no focus on whether cycle training decreases casualties and road accidents. Some reports have detailed a future area of study to be the correlation between cycle training and reported road accidents, for example, Savill, Bryan-Brown and Harland (1996:12) suggested that if the ‘number of cycling casualties were correlated with cycle training it would provide a true estimate of the value of cycle training’.

Acton et al. (1995) focused on the causes of accidents, injuries and deaths in children who ride bicycles. They found that cycling by children is a common cause of injury, particularly for boys. They suggested that injury prevention for bicycle riders should involve not only the compulsory wearing of helmets, but should also include education and training about safe riding habits. More recently, research by Telfer et al. (2005) revealed that cycle training helped children overcome barriers to cycling and made them less likely to make errors. In addition, trained children were less likely to be involved in crashes compared to their untrained counterpart. However, Colwell and Culverwell (2002) found that cycle training programmes had no effect on reducing children’s cycle related crashes and that there was no difference in crashes between trained and untrained children. They did however, ask the children for the total number of lifetime crashes, meaning that crashes which happened before the training may have diluted the significance in a claim for the effectiveness of training, i.e. there was no before and after-training comparison.
Cycling statistics

Many of the statistical reports available largely relate to national averages about location and severity of the incidents, with little specific age related data being recorded. The Police, The Department for Transport and private cycling organisations all have an input to the reports and may consequently have an influence upon the cumulative data – they have a vested interest in the picture it presents. The reports printed by cycling organisations can often form part of a promotional campaign to advertise cycling; therefore the statistical evidence of accidents rates is likely to be played down so as not to deter people from cycling. Moreover, it has long been known that a significant proportion of non-fatal accidents go unreported (Department for Transport, 2013) inferring that the statistical evidence carries an element of inaccuracy in representing the overall reality of cycle crashes, injury or even near misses.

A report by Keep (2013) gives a detailed overview of the number of cycling fatalities regionally and nationally in the UK since 1979. However, these are an average of the whole country with no distinction between age groups. The majority of the statistical data used in the present study is from The Department for Transport, which is the only source of secondary information that relates specifically to children. However, even this source of data is lacking detail of exactly how many children are killed or seriously injured on the roads and whether or not cycle training may aid in accident prevention. Additionally, to the researcher’s knowledge there is a lack of student voice (participant views) within cycle training evaluation. A notion of ‘student voice’ could bring a new perspective to understanding cycle training and specifically the Bikeability course, something which this research intended to incorporate and listen to. Previous student research has looked at gender and social influences of cycling (Dalton, 2010) and cycling research for the development of a National Strategy (Rosen, 2003) but little work appears to have been undertaken in relation to the experience of cycle training.

Aims of the present study

There is a plethora of research espousing the benefits of cycle training for health and well-being, however, there appears to be little previous research to determine the effectiveness of Bikeability from a parental/pupil perspective – with Bikeability a relatively new programme/intervention in itself. Therefore, the aims of the present study are to investigate whether:

a: Bikeability is an effective method to improve children’s ability to cycle;
b: the parents of the children deem Bikeability to be valuable;
c: the scheme can be related to the reduction in casualties and road accidents involving young cyclists.
Building on survey research by Ipsos MORI (2011) which was based on questionnaires returned by 470 parents and 470 children, this qualitative study aimed to gather primary data on the attitudes and feelings of children and parents surrounding the Bikeability experience.

### Into the field on two wheels

Three data collection methods were used to gain an insight into Bikeability from different perspectives. First, the researcher observed the children in the playground during Bikeability training for their ability and behaviour with field notes made at the time (see appendix 6). The researcher also conducted interviews with three parents. Each parent signed an Interview Consent Form (appendix 7) allowing his or her responses to contribute to research (transcripts appendix 8). Lastly questionnaires (n:26) were used to gather data from the children about their cycling and Bikeability experiences. Each child completed a pre-Bikeability and post-Bikeability questionnaire (appendices 9i and 9ii).

### 1. Observations

The initial idea of the observations was to rate the children’s ability before and after the training using the Bikeability Proficiency Checklist (appendix 1) but progressed to observing their social behaviour in the context of cycling. Flick (2006) suggested that observation is at the centre of qualitative research, producing a wealth of data to be analysed. Palmer and Griggs (2010) suggest that observation is much more than simply watching or spectating. The researcher must prioritise, theorise and be aware of bias in relation to their position. The notes made during the observations were adapted from Schatzman and Strauss (1973); this involved ordering field notes into clear sections with different analytical focuses, allowing description of events, theoretical inferences for new meaning and noting possible bias resulting from an observation.

**Observational Notes (ON)** – These notes are descriptive statements, describing exactly what is happening at the time of the observation. Looking at face value with little or no inferences made (Palmer, 2010).

**Theoretical Notes (TN)** – Adding depth to the data. The researcher makes critical inferences about the observations; who, what, where, when, how, or even why… including making notes of any theories or ideas that come to mind during the event witnessed (Hughes and Palmer, 2010).

**Methodological Notes (MN)** - Should indicate what the researcher can and cannot do in a given field situation/context. They should note possible bias and how weaknesses in the data might be created (McCabe and Palmer, 2007). How much can an observer actually see? Does the researcher’s presence have an impact upon the social setting and therefore on the data and to what extent does the researcher recognise these impacts?
In this Bikeability investigation the researcher was aware that her presence to observe sessions, as an unknown individual to the children participating, would have an effect on the children’s normal behaviour. From previous experience the more comfortable children are with the instructors the better they perform. It was therefore important for the researcher to be introduced to the children before the course began to set them at ease. This announcement did seem to make them feel more comfortable with my presence, making my task of noting field observations easier, which in turn may now be an authentic record of their normal Bikeability behaviour. Revealing my field role as a researcher and Bikeability interests to the pupils was unlikely to affect the data as we were all outsiders to the pupils’ normal sphere of social influence in that school setting.

Extract from field observation notes 9th December 2013

10am – introduction in the school hall
ON: The Instructors have introduced themselves and me as someone who will be watching the session.

TN: The children are allowed to use my name as it’s more friendly and I feel it necessary for them to know me and become comfortable with me watching them.

A conscious effort was made to interact with the children but not to distract them – they should not be confused about roles and who was instructing them. If the researcher were a complete observer, i.e. with a restricted participatory role such as no introductions made, or having no conversation with the children (see discussion on ‘participant observation’ in McCabe and Palmer, 2007), they might not be relaxed with their natural actions, thoughts and expressions in this setting. At the start of the session the children were slightly wary of the researcher’s presence as some of the boys in the class lowered their conversation when they noticed they were being watched…

Extract from field observation notes 9th December 2013

10am – introduction in the school hall
MN - The children could see me throughout the talk by the Instructors; the conversation I overheard was hushed to limit me hearing. A boy’s reaction to me listening made him lower his voice even more, showing that my presence may already be influencing the children’s behavior and changing opinions.

However, over the course of the session the children became more and more comfortable with the researcher and actively looked to start conversations and ask relevant questions. This was the practical aim of the observations, to obtain real thoughts and feelings from the children and observe their behaviour as an active participant in their cycle training, as the following extract shows:
**Extract from field observation notes 9th December 2013**

**10.15am – starting the practical Bikeability training session**

MN - A few children have approached me and asked my full name and are interested in what I am doing because I have a clipboard and none of the other adults do.

An important point highlighted from the field observations role was the ability to switch from researcher to instructor and to avoid doing this. However, separating the two roles became a challenge. The main aim was for the researcher to gather observations about the children’s behaviour and their ability to ride a bike. Whilst keen to help out, the researcher was able to control the bias and preserve her ethical stance by maintaining an ‘observations mode’ and did not let her previous knowledge of Bikeability affect the interactions being made.

**Extract from field observation notes 9th December 2013**

**10.50am – end of the Bikeability training session**

MN - I feel maybe I am being a little biased with my opinions of the children’s abilities. I am the researcher and not instructing nor am I watching the children for pass or fail. The course instructors have responsibility for the children’s safety so I must not distract either them or the children.

**2. Interviews**

Interviews are the most commonly used method of collecting data in qualitative research (Holstein and Gubrium, 2004; Nunkoonsing, 2005). Interviews enable individuals to think and talk about their needs, expectations, experiences and understanding (Nunkoonsing, 2005), but also allowing the construction of knowledge (Willig, 2001). Three interviews were conducted, intended to gain an insight into the thoughts and feelings of the parents in relation to Bikeability training. Each interview was transcribed in turn to guide and inform the next interview (Palmer and Griggs, 2010). However, time constraints and limited availability of parents meant that there could be no follow-up of transcribed data for further, deeper discussion about their comments. Rather, themes emerging from their data was used to inform the questionnaire designs that would be later asked of the children.

Although interviews are the most commonly used there were some limitations for their use. Pre-arranging interviews was problematic with parents who may have regarded them some suspicion; a formal ‘going on record’ with their views. Then recording and storing the interview data was an issue; the first interview was recorded by taking notes in response to scheduled questions, leaving the researcher concentrating more on her note-pad than the interviewee and unable to write down all the relevant commentary and some data was lost, or lost meaning. The next two interviews were recorded using a digital Dictaphone and transcribed and analysed.
progressively. This allowed for a more conversational structure in the transcript allowing the researcher to note more non-verbal communication than in the previous two interviews, and also allowed for more detailed reflection on the responses for the development of inferences and themes. The researcher could also note subtle reactions and possible disturbances that affected the interview.

The first interview took place in the school hall at 9am. This coincided with the start of the school day and there were children in and around the hall at the time of the interview. In hindsight this created a lot of distraction for both the researcher and the interviewee; the brevity of responses given seem to represent the high level of distraction in the hall at the time. There were however, some aspects of body language that the interviewer was able to pick up on, for example, she sensed distracted tones and short sharp answers, and very brief moments of eye contact. According to Pigford (2001) this may have indicated a disinterest in the topic and might also be due to the interviewee being self-conscious or nervous. The rushed answers and lack of eye contact were obvious to the researcher during this first interview experience as the transcript illustration figure 3, begins to show.

<table>
<thead>
<tr>
<th>Verbatim typed record of utterances, questions and responses.</th>
<th>Non verbal communication NVCs- actions, reactions disturbances and/or researcher notes</th>
<th>Initial coding – analysis of responses: themes, trends and inferences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NH - What do you consider to be the main benefits of your child riding a bike?</strong></td>
<td>I think riding a bike is good as long as the conditions are safe, she knows what she’s doing and she’s confident…</td>
<td>He is not making much eye contact with me here, there are children outside on break and they are causing slight distractions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quite forthright - straight to the point, I am writing the answers down in note form. This is a very open question, mainly to see what he thinks about cycling and whether he is a supporter.</td>
</tr>
</tbody>
</table>

**Figure 3.** Extract from Interview No: 1, 9th January 2014, 9am

The first parent interviewed did not participate in sport and showed a lack of interest for physical activity. As a researcher using staged interviews (Kawycz, 2007) I learned that first impressions (for both parties) make a strong impact and can influence how an interview might flow. As all of the interviewees were unknown to the researcher there was a raised awareness of the social significance of initial personal judgments. In interview 1 the answers and the body language portrayed
were negative; he alluded to the idea of cycling being unsafe and a disapproval of the scheme in general. The next line of enquiry would be to observe his child to see if his negative attitude affects their attitude towards cycling.

**Interview 1 NVC note: 9.00am**

*Again his arms are folded, indicating closed body language. He is wearing informal dress, bit of stubble and slightly over weight.*

### 3. Questionnaires

The final data collection method was two different questionnaires designed to yield ‘before and after’ information (Key, 1997) about experiences of cycling and Bikeability training: figures 3 and 4 below (see also appendices 8i and 8ii).

**Figure 3.** Extract from the pre-Bikeability Questionnaires (n=26)

**Figure 4.** Extract from the post-Bikeability Questionnaires (n=26)

The children completed them in the classroom in less than 20 minutes which made it an effective way to collect a multitude of data (Kawycz, 2007), also with few ethical concerns as each child remained anonymous on the questionnaires. The first four questions on the pre-Bikeability Questionnaire allowed children to give an overview of their cycling habits which helped to establish how many children owned
their own bikes, how often and where they rode them etc. The post-Bikeability Questionnaire allowed children to give their opinion on the course having completed it, and their confidence to ride a bicycle in the future. The questionnaires were designed to compare the effectiveness of the scheme from the children’s perspective. Whilst there is no way of knowing if this is the same child answering (a by-product of practical research ethics), collectively there was a trend that confidence to ride a bike and be safe on the roads has risen as result of the practice and encouragement gleaned from the cycle training.

**Peddling through data**

The study school was selected because its children and staff had no previous of Bikeability; as a school they had not previously taken part in the scheme. Prior to this the school had adopted a different method of cycle training called Passport to Safer Cycling. Both Passport to Safer Cycling and Bikeability are aimed at children of the same age (Years 5-6). They provide training both on and off road and aim to improve children’s awareness of road issues. The main difference between the two schemes is the cost. Passport to Safer Cycling costs the school £20 per child as the teachers need specific cycle training to instruct the children. Bikeability is offered free to schools in the area.

**Experiential learning**

Bikeability comprises of three levels with a series of progressive outcomes. The training can take a complete beginner all the way to being able to ride on any road where cycling is permitted. The scheme is underpinned by the National Standard and aims to give children the confidence and competence to cycle on the road. The experiential learning process promoted by Bikeability is designed to engage children in direct physical experiences which are related to real life situations. Experiential learning is also referred to as; learning through action, learning by doing, learning through experience, and learning through discovery and exploration (Wurdinger and Carlson, 2010). Following this trend for experiential learning a growing body of research has described the importance of outdoor environments to children’s development, towards which practical cycle training may make a valuable contribution (Veselack, Cain-Chang, Miller, 2009).

Using the outdoor environment not only develops children’s physical, cognitive, social and emotional competencies, it also can also promote a healthy lifestyle (Williams-Siegfredsen, 2005). According to Dannenmaier (1998) and Keeler (2008) outside activities appeal to children despite more and more children spending less time outdoors than they did generations ago (Clements, 2004; Dannenmaier, 1998; Louv, 2005; McGinnis, 2003). This reduction in outdoor time and significantly decreased interaction with nature means children do not get the opportunities to actively engage in experiential learning in the outdoors or to learn about the natural
world through active engagement and child-initiated experiences (Keeler, 2008). Through Bikeability children are actively encouraged to cycle, to be outdoors and to become more active, allowing the children to develop important ‘foundational skills’ will help them prepare for future learning and encourage a sense of discovery (Veselack, Cain-Chang, Miller, 2009).

Walsh and Gardener (2005) identified six key features of experiential learning which they claim must be present in order for children to gain full advantage of hands-on learning. These are:

(i) Children should be actively interested and engaged in their learning.
(ii) Children need to be independent and have a measure of control over their own learning.
(iii) Children must feel secure in their learning environment
(iv) Children should learn in the company of others.
(v) Children’s learning must be holistic and must cover a variety of skills and knowledge.
(vi) Children’s metacognitive thinking skills must be harnessed.

These key features of experiential learning form a direct link to the outcomes of Bikeability and enrich the school-based educational experience that may be associated with the Bikeability course. (The initial mind-map of ideas for this research [figure 1] became illustrative of this point).

Awareness

(i) Children should be actively interested and engaged in their learning

(Walsh and Gardner, 2005)

Bikeability is designed to give the next generation of cyclists the skills and confidence to ride their bikes on today’s roads. One of the key outcomes of the scheme is for the child to demonstrate the ability to look behind them and take in information while riding in a straight line, without loss of control. The children must become aware of their surroundings and be able to take in what they see and respond accordingly (Department for Transport, 2012). The instructors stress the importance of being aware when cycling on the roads. However, it is only when the child is in a real-life road situation that they may understand why they need to be aware of their surroundings.

Kolb (1984) formulated a theory of learning based upon the acquisition of new concepts reinforced by new experiences. It described ‘effective learning’ progressing through a cycle of four stages:
(1) having a concrete experience followed by;
(2) observation of and reflection on that experience which leads to;
(3) the formation of abstract concepts (analysis) and generalisations (conclusions) which are then;
(4) used to test hypothesis in future situations, resulting in new experiences.

The process through which Bikeability is taught seems to resonate with the principle of this learning theory, represented in figure 5:

![Figure 5. Kolb’s (1984) Learning Style Continuum](image)

In cycle training the children are assessed against the Bikeability Proficiency Checklist (appendix 1) which for most will be a new experience. The children then have time to reflect upon that experience through instructor feedback and watching other children perform the tasks. Through this reflexive observation the children start to think about the tasks and outcomes, learning from their experience and understanding the reasons why each outcome is important for cycling. Finally, when all the outcomes are taught the children attempt to apply them in a real-life situation.

After a number of field observations the researcher concluded that the children were willing to learn the outcome but do not truly understand why each element of the outcome is used in practice, until they have to use it in on the road in Level 2. For example, one of the outcomes is to ‘look around’. The trainees must demonstrate awareness rather than just looking – easily assessed by asking the child, ‘what did you see?’ This outcome becomes essential when cycling on the roads as it is critical for the children to be aware of cars and obstacles for their own safety. When the children are cycling on the road demonstrating the learned skill, it is only then, when they become really engaged and interested, i.e. they fully understand the
process and importance of awareness, which as noted through the field observations, seemed to motivate the children.

| 11. Look all around, Including behind, without loss of control | 11.1 The trainee must demonstrate an ability to look behind (over both shoulders) and take in information while riding in a straight line, without loss of control. | Good rear observation a good competence to be learnt, enabling the trainee to achieve most other outcomes more easily. However, this outcome includes all round observation and making sure the trainee has ‘seen’ rather than just looked. |

**Figure 6. Bikeability outcome for a Level One trainee**

Another factor that can affect a child’s ability to ‘be aware’ and ‘be fully engaged’ are the training conditions. During the observations, even though most children were actively listening there was a lack of engagement from several children. A reason for this could be attributed to the weather. For example, if the weather is unpleasant, too cold or too hot, some children may lose concentration and interest. For example, Tucker and Gililand (2007) found that levels of physical activity vary with the seasons and that poor or extreme weather has been known to reduce participation and activity rates for children.

**Extract from field observation notes 9th December 2013**

**10am - introduction in school hall**

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**ON** - Most children have coats on but no gloves, scarves or hats, which they were instructed to bring because it is December and it is cold outside

**10.15am – starting the Bikeability training session**

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**TN** - There is no intervention from the Instructors who seem to be battling with the cold.

The researcher asked other Bikeability instructors about the issue of weather. The results were as expected; they reported that the children reacted differently to different weather conditions. This makes the training hard as children who receive training in the winter months may perform worse then those taught in the summer months. During the observations, there were numerous occasions when the weather was mentioned. This line of enquiry was followed up with a fellow Bikeability instructor to see if this issue was recurrent amongst other children, or whether the climatic conditions just affected the training session observed:
Email response from a fellow Bikeability instructor

Question: Do you think the weather makes a difference to the training?

Yes I do think that the weather makes a difference to the training and the children’s reasons for doing the training. If the weather is good (sunny) the children are usually fine but if the weather starts getting bad (rain, windy, snowing) the children get cold, lose concentration and start to lack ability to do the outcomes that are needed to pass the course.

Cycle training can continue in most weather conditions. Cycling in bad weather, albeit miserable for the children can have some advantages. Children who learn in poor weather conditions have a greater responsibility for their own safety, which can heighten their awareness and overall cycling ability. They must understand that with wet weather comes reduced visibility, so they must make an extra effort to be seen when cycling, for example, wearing high visibility jackets, reflectors and lights for the bike. The children and instructors should be aware that all vehicles need a greater distance to stop safely. Bad weather demands an extra level of vigilance from the children with altered braking times, splashing and slippery surfaces.

Independence and control

(ii) Children need to be independent and have a measure of control over their own learning

(Walsh and Gardner, 2005)

Howe (1999) argued that children's independent actions and feelings of self-control are important for later development. When children believe that the outcome of a situation depends on their own actions, they can make more effort in the process and positive feelings of self-esteem and social competence are increased. Recent initiatives and curriculum documents from various Government agencies have given prominence to the idea of independent learning (Whitebread et al., 2007). Independent learning is about children having opportunities to make decisions and experience personal success which in turn, helps to develop confidence and self-esteem (Meyer et al., 2008). Bikeability is designed to encourage and empower people of all ages to make independent cycle journeys in a range of road conditions (Department for Transport, 2013). Gaining independence is an essential life skill helping children to have control and satisfaction in their lives (Wills, 2009). In so doing, Bikeability gives children the opportunity to make their own decisions and learn new skills from a qualified instructor in a fun and safe environment.

During the field observations the researcher noted many children developing confidence. For example, during one session there was a child who was quiet but listened attentively and performed the outcomes to perfection but seemed to lack confidence and self-belief to take charge in certain situations. Over the course of the
training she received positive feedback, subsequently improving her all round ability:

<table>
<thead>
<tr>
<th>Extract from field observation notes 9th December 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10.15am - starting the practical Bikeability training session</strong></td>
</tr>
<tr>
<td>ON - I notice one little girl who is at the back of the group she has a nice bike, but doesn’t look very interested in training or cycling in general. From her body language she is hunched over, possibly cold and not bursting with energy like the other children.</td>
</tr>
<tr>
<td><strong>10.50am - end of the Bikeability training session</strong></td>
</tr>
<tr>
<td>ON - I can see the little girl who looked timid this morning she have has a complete personality change she is riding confidently, very interested in the training and is smiling which made a change from this morning.</td>
</tr>
</tbody>
</table>

Figure 7 below shows the observation notes written on Monday 9th December after the Bikeability Level 1 session. Having noted the child’s behaviour an opportunity arose to speak with her and gain an insight into her feelings. The answer given was later transcribed; it is not a direct quote from the child but is a synopsis of what was said:

![Handwritten notes](image)

**Figure 7.** Hand written field observation notes of child perceptions

The Bikeability scheme encourages independent behaviour that may be transferrable into everyday tasks at school and beyond. Also, many parents want their children to grow up to be independent people, able to solve problems and be confident in themselves and confident in their relationships with others (Bowlby, 1956). Therefore, Bikeability seems an ideal means to promote independent behaviour – they are in charge of their own bicycle, allowing children to learn through actions and providing the tools to experience being independent. Such experiences may allow them to evaluate mistakes and have a level of control over their learning. If they engage and participate fully they will not only benefit from
improved cycling ability, but a lot more personal/self development seems to be gained from the activity along the way.

Whilst Bikeability promotes independent learning skills, it also allows children to become independently mobile. For young people, being independently mobile without adult supervision is important for their physical, social, cognitive and emotional development (Hillman, Adams and Whitlegg, 1990). Restrictions on their independent mobility can be a direct result of parental fears, for example, parents always escorting/taxiing their children to and from school (Hillman, Adams and Whitlegg, 1990). Their fear, or perceived need to protect their children from traffic rather than teaching them how to negotiate it, may be largely responsible for the changes in children’s habits of movement and expectation, e.g. they become driven everywhere (Björklid, 1995; Heurlin-Norinder, 1996). This fear may, pejoratively, only serve to increase car traffic and decrease the number of cyclists on the roads.

A fellow Bikeability instructor working for Go Velo, a Bikeability organisation, identified parental influence as a major reason why children may not engage in the training:

Email response from a fellow Bikeability instructor

Question: What do you think the major reasons are for children not engaging with the training?

*I think there are many reasons for children not taking part in Bikeability. The main reason I think children don’t take part is to do with parent’s worries.*

According to MacMillan and Hewitt (2011) cycle training was most effective when the head teacher, staff and parents, supported the programme. If parents are not supportive and have concerns about safety, the children may never learn - safely.

Extracts from all three interviews, showing opinions about cycling on the roads

Interview 1 - *The only thing I would say is that most parents don’t have time to take their kids out and keep up what you lot do at school. So yes the training will be good for them, but it won’t last and riding on the roads seems dangerous to me personally.*

Interview 2 - *I think my son will be fine riding on the roads.*

Interview 3 - *No not at all. I am not sure he will stick to it but it’s good for them to learn. We do some cycling; it’s mostly on cycle paths though because of the girls.*

From the interviews, it was noted that all the parents made reference to their child cycling on the road and the safety element of the training. Understandably, safety will always be an issue for parents, particularly from dangers that they and their children cannot control. Bikeability recognises this so training is designed to
address these concerns, equipping children with the necessary skills to respond to the dangers (The Department for Transport, 2011).

The interviews gave interesting insights and opinions. one of the parents interviewed was a Physical Education teacher at a local primary school and supports Bikeability as a scheme not only to improve cycling, but also to promote fitness and physical activity. She gave a positive opinion on Bikeability in relation to her child:

**Extract from Interview 3, 9am, 15th January 2014**

*Interviewee - As a teacher myself and highly involved with sport and the PE side of things, I think anything that will get the kids active is fantastic.*

*NH - She and I may be a little biased because we work in sport and are passionate about it however I need to get the views of non-sporting people to get a balanced opinion.*

The opinions expressed during this interview were very encouraging about Bikeability as parents play an integral part in the development of positive attitudes towards physical activity in their children. For example, Welk, Wood and Morss (2003) identify two aspects of parental behaviours that promote physical activity in children. Firstly, being a positive role model which includes a parent’s interest in physical activity, second is parental support, which refers to encouragement and involvement as well as creating opportunities for the child to participate.

**Freedom**

*(iii) Children must feel secure in their learning environment*

(Walsh and Gardner, 2005)

Goleman (1996) indicated that people with a high level of confidence and self-esteem are more likely to be content and effective in their lives. It is also believed that young children require a learning environment that is secure and positive, where they can feel happy, healthy, safe and comfortable (Ball, 1994; Moss, 1996). Further, children need time and freedom to explore (Greenman, 1988) along with access to a variety of materials and opportunities to manipulate or ‘mess about’ with things for active experimentation. Children are often compelled to observe, poke, touch, smell and handle items, to be ‘in touch with them’ (Palmer et al., 2014), or to understand what control they have over them; to ascertain its usefulness (Veselack, Cain-Chang, Miller, 2009). A prime example was observed when the children were collecting their bikes at the very start of the Bikeability session:
Extract from field observation notes, 9th December 2013

10.15am - starting the practical Bikeability training session

ON – The children rush to get their bikes, some are scooting on one side instead of walking. The children are riding around the playground without helmets on, giggling and looking excited to start training.

TN – Already the children are not listening to instructions, ... they have all run at once to gather their bikes and this could cause injuries.

If the children did what they were instructed to do the process of getting their bikes would be much quicker.

There is no intervention from the instructors who seem to be battling with the cold.

From the instructors’ and researcher’s perspectives the children were not listening to instructions, they were playing with their bikes and generally being difficult to control. However, it is this ‘messing about’ which adults may view as frivolous that leads children to a greater understanding of not only the world around them, but their own sense of satisfaction in discovery (University of Illinois, 2009). In future, allowing the children more time to discover and play with their bikes may help the learning process and feature purposefully in the delivery of Bikeability. While it is difficult for the instructors to see the benefits of ‘messing about’, Elkind (2007) suggests that children play with great purpose and intention. Almon and Miller (2009) and Copple and Bredekamp (2009) recognised that children need the freedom to explore, to direct their own play under the watchful eye of knowing adults. This freedom may be gained through Bikeability allowing them to create solutions emerging from the practical cycling tests, adding to their knowledge. According to Ipsos MORI (2011:15) cycling helps children to develop their freedom and independence and that riding a bike is ‘part of growing up’.

Cycling is a fun and healthy way for children to get about (Bedford Borough Council, 2012) and Bikeability teaches the children the skills they need to make safe journeys on their bikes, perhaps with a level of freedom they may not have experienced before. Freedom opens up a wide range of opportunities for children, like being able to cycle to a friend’s house, making them less dependent on an adult. Freedom rated highly in the Ipsos MORI (2011) report on Bikeability where parents perceived freedom to be the second main benefit to cycle training as figure 8 below indicates:
From comments in the interview data all the parents felt that generally, Bikeability was a good scheme to have operating in schools, although some parents were more supportive than others which may have an effect on their child’s future engagement in cycling. Given that a bicycle is a vehicle for them to engage with the wider world the parental limitation may be far reaching for their social development. The two fathers both commented on the lack of follow up to Bikeability saying that their children were likely to revert back to the way they had ridden previously. However, through Bikeability the children have practiced and demonstrated a range of new skills which even if they were to revert back to some their old cycling ways, some new habits are likely to have been formed helping them be safer riders with a better understanding of the roads.

Social factors

*(iv) Children should learn in the company of others*

(Walsh and Gardner, 2005)

Rogoff (1990:138) emphasised that day-to-day engagement of children and adults in shared activities contributes to the rapid progress of children in becoming skilled participants in the intellectual and social lives of their society... like genes, social interaction and social arrangements are an essential aspect of child development. Children need to be encouraged to think for themselves, but to accept and appreciate others around them (Adams, 1996). Through Bikeability the children have the opportunity to learn from each other, through group feedback and watching each other practice.
According to Thorne (1992) children frequently arrange themselves in same sex clusters with the segregation becoming most apparent in primary school. This is a widely recognised issue amongst Bikeability instructors who try to combat this by forming smaller, mixed-gender groups to take advantage of different strengths of individual learners within the group (Vermette, 1995). Integrating boys and girls can help them learn how to socialise and communicate with each other away from the classroom. These socialisation skills are often imitated and adopted by children from parental influences (Parson, Adler and Kaczala, 1982). To further support the social benefits of Bikeability, Keep (2012) found that 41% of children use their bikes to visit friends’ homes and 60% of children use cycling as a tool to play. These figures highlight the important social aspect cycling has for children of this age.

As role models for their children, parents’ sports and activity habits also have an influence on a child’s activity levels which may be positive or negative. The first interviewee deemed Bikeability an unessential activity for his child. This perception could influence a child’s decisions and attitudes, making that child less inclined to cycle and be active. Below are some queries noted by the researcher after an interview with a parent that could help to form part of a future study:

Compared to the two interviews which followed, the first interviewee showed negative feelings towards the training. His non-verbal body language appeared to support this lack of interest and lack of support for the programme. Throughout the interview he made his feelings about the children riding on the roads very clear. Heurlin-Norinder (1996) found that parents living in areas where traffic is heavier
are more worried about traffic than those living in quieter areas. Hillman (2000) believes that the biggest risk factor from a parent’s perspective is road dangers and injury to their children when they are alone. This fear of risk is understandable as children are 100 times more likely to be killed by road users than by other ‘social fears’, like strangers, crime or environmental hazards (Sustrans, 2001).

Extract from Interview number 1 – 11am, 9th January 2014

Initial coding – analysis of responses: themes, trends and inferences

He can’t get past the road issue.

The children are taught to ride on the road because it’s actually illegal to ride on the pavement I didn’t mention this though.

Safety seems to be a recurrent theme from this parent.

These questions/responses may be potential areas for future study.

Mechanical Understanding

(v) Children’s metacognitive thinking skills must be harnessed
(Walsh and Gardner, 2005)

Howard Gardner’s theories on Multiple Intelligences (1993, 1999) expressed the importance of a broad and balanced curriculum to address all aspects of children’s development in their early years through multiple intelligences, including; linguistic, logical, musical, and kinaesthetic. At the start of the Bikeability session all the children were shown how to complete a Bike check (M Check) (appendix 1). This involves conducting a safety inspection on all the main working parts of the bike and with practice, should take no more than two or three minutes. It is called the ‘M check’, see figure 9 below, because the children work from the front of the bicycle backwards in an M shape to make sure nothing is missed.

Most children see their bicycles as their most treasured possessions, therefore teaching them to be responsible and how to repair and maintain their bicycles is an important task for the Bikeability instructors. When children learn how to maintain and repair their own bicycles, they are also learning a range of valuable educational skills, including physical mechanical skills. The children learn about the bike and how it works. They learn which parts move and how each part of the bike is linked. Each part of the bike is described and the children are told what to look for if it is broken. These mechanical skills are new to most children and adjusting the bike can improve children’s fine motor skills and mechanical judgement. Using tools can aid logical and creative thinking, which again are essential life skills but will aid in the classroom as well. Throughout bike maintenance the children use spanners, levers and ratchets to adjust; tighten, loosen or set things. There are different tools for different parts of the bike and children must understand how to use them. Not only
will the children be confident riders but they will be able to repair any minor
problems they have with their bikes.

Figure 9. Extract from Level 1 National Standard – Bike Check or ‘M Check’

<table>
<thead>
<tr>
<th>2. Carry out a simple bike check</th>
<th>2.1 Trainees must be able to carry out a simple check on their bike’s brakes, tyres, wheels, steering and chain. 2.2. Trainees should understand that a bike should be set up to fit them (but can expect the instructor to ensure the bike is correctly set up).</th>
<th>While we would not necessarily expect trainees, particularly children, to make repairs to their bike, we should expect that they are able to spot simple faults that need to be dealt with. Some trainees will also have bikes that are the wrong size for them. While these may not be adjusted to ideal size, the trainee should be aware of what the ideal is.</th>
</tr>
</thead>
</table>

This is another form of freedom Bikeability gives the children - a sense of independence when things break or need altering. From the observations and the inferences made during the interview it was found that some children were more able than others when it came to using the tools and understanding the mechanical aspects of the bike.

Extract from Interview 3 – 9am, 23rd January 2014

*He is quite hands on... though likes to do gardening and playing with Mechnano so he is quite ‘handy’.*

*...but Matthew quite likes playing on his own in his room with his Lego building things and taking things apart and fiddling with them.*

The extract from the final interview (above) demonstrates that some children are more mechanically able than others and are more interested in the mechanics of
items. Freeberg and Payne (1968) pointed out that if children observe their parents fixing things, using tools and being mechanically minded they are more than likely to follow this behaviour.

Over the course of Bikeability the children use an array of skills and it is evident that some children are developing an understanding for each skill required. Not only do the children develop skills like awareness and independence, but mathematical and cognitive skills are also developed. The children have to use mathematical skills to decide which gears to use; ratios/mechanical advantage, understanding that the lower the gear the easier peddling can become. The children have to work out distances, speed and most importantly stopping time. During the M check, the children have the opportunity to use tools and learn how to maintain their bikes. Adults sometimes focus on risk and the dangers of allowing children to use real tools, however, if children are shown how to use tools properly, their confidence grows and their competencies increase (Williams-Siegfredsen, 2005).

Parental influence and consent to ‘play on bikes’

Parents have a great influence upon a child’s development and to some extent the child’s cycling ability and habits. Moore et al. (1991) studied the possible mechanisms for the relationship between parents and a child’s physical activity, concluding that parents serve as role models and those children are more inclined to be active if family members share activities.

The first interview demonstrated this point clearly. The researcher judged that the interviewee possibly didn’t take part in much physical activity and he may feel it not important for his children to be active. Moore et al (1991) found that when both parents were active, the children were 5.8 times as likely to be active as children of two relatively inactive parents.

Extract from Interview number 1 – 11am, 9th January 2014

NH - How important is it that your child receives formal cycle training?
Parent - I don’t think it’s essential, like maths or English

NH - To what extent do you think the Bikeability training will change your child’s confidence riding on the roads?
Parent - She might become more confident, but I doubt she will keep it up. She plays in the street but not usually on her bike.

From the researcher’s perspective the first interview was a negative start to the interview phase of research. However, following the notion of parental influence the second interview was a much more positive experience.
Nicola Hamilton and Clive Palmer

Extract from Interview 2 - 9am 15th January 2014

NH - Do you feel it’s good for the children to learn about cycling at this age and at this time of the school year or do you think it could potentially be seen as a waste of school time?

Parent - As a teacher myself and highly involved with sport and the PE side of things, I think anything that will get the kids active is fantastic. I don’t think anything that gets children active and outside is a waste of time. More and more children are staying in and getting overweight, I think Bikeability is a fantastic idea.

Initial coding – analysis of responses: themes, trends and inferences

Parent - The more active the family, I think the more active the kids are going to be. She said they go to the gym; they must lead a healthy lifestyle. This is the type of parent I like! They are supportive of the cause and encourage the child to be healthy and active.

This same question about parental support was followed up in email exchanges with a Bikeability colleague:

Email response from a fellow Bikeability Instructor

Question: Do you think parents’ attitudes influence their children’s cycling habits/ability?

Parent - Yes I do think that the children’s parents play a big part in the ability and habits of the children’s progressions.

Interestingly, a discovery during field research which has also been reported anecdotally from other instructors is that some parents will not sign a consent form for their child to participate in Bikeability. Consequently, these children may miss out the opportunity to take part in Bikeability, not only to improve their cycling habits but make all sorts of physical and intellectual links to aspects of learning in school. They may not acquire a sense of safety and independence on a bicycle, they may not experience the freedom and confidence from cycling and miss out on the opportunity to learn through active play at this vital stage of development. They may forgo the social interaction of learning with others on bicycles and have less experimentation with tools and bike maintenance which could affect their fine motor skills; all depriving them of these valuable opportunities for making new meanings and constructing new understandings about the world.

The Bikeability experience – a holistic education

(vi) Children’s learning must be holistic and must cover a variety of skills and knowledge

(Walsh and Gardner, 2005)

Holistic education focuses on the fullest possible development of a child, encouraging individuals to become the very best they can be (Forbes, 2003). Holistic education enables children to experience a variety of skills and emphasises
education beyond the confines of the classroom. Through Bikeability children are encouraged to think for themselves, think critically about situations and develop an understanding and appreciation for the world around them. By teaching a child these essential skills in a holistic and experiential learning style, the children can assimilate knowledge and practical skills and develop as individuals through their decision making, for example, the children are able to travel and have freedom to explore, experience speed, forces and manage risk. Through the feedback during the sessions, the children are encouraged to reflect and question, rather than memorise facts for later regurgitation (Veselack, Cain-Chang and Miller, 2009). For these reasons and more Bikeability may be an ideal catalyst for such an approach to education.

Remove the stabilisers!

Whilst the researcher was interested in parent’s views she was also keen to elicit some perspectives from participating children about their cycling experiences. Interviewing the children individually, or even staging a focus group discussion was not feasible on a number of grounds; time, practicality, ethically the child would need to be accompanied in the interview by a teacher possibly after school, respondent/parent consent, verification/reliability of the data. Therefore, in addition to the data from field observations, before-and-after [Bikeability] questionnaires were devised which might support the school’s initiative to invite the course into their environment in the first place, by follow-up reflection on the experience as a classroom exercise. Significantly though, the questionnaires posed the least imposition in the field for maximum return, given its limitations in the kind of data/commentary that might be gleaned to move the study forward.

The questionnaire sought to find out what the children learnt from the course in addition to new cycling skills and knowledge. Many children focused on specific manoeuvres or elements of the training, detailing manoeuvres like U Turns. These are specific elements of the course. However, some children were able to fully appreciate and access a deeper understanding of the scheme, identifying elements like safety, awareness and understanding for example:

![Figure 10. Extract from a pre-Bikeability Questionnaire](image)
The child’s comments in figure 10 show how important it is to instil confidence in the trainee and to build a relationship based on mutual trust and respect. Building a trusting relationship with the children enables instructors to maximize learning during this very short period of formal cycle training. Consequently, it is vital that the instructors motivate, develop and help the children in any way possible.

Bikeability gives children the opportunity to learn cycling skills in the outdoors whilst being in the company of their friends. A negative influence upon this learning opportunity may be a cultural shift to ‘city living’ where there may be less need to ride a bicycle and an increasing reliance on electrical media for entertainment, with the result that individuals’ needs or desire to be outdoors has decreased (Rivkin, 1995; White, 2004; Louv, 2005). A comment from a parent in the first interview seemed indicative of this trend:

**Extract from Interview 1 – 11am, 9th January 2014**

...she stays mostly inside watching TV and playing on her IPad.

A further example of assimilating Bikeability knowledge into learning and making valuable links with Literacy in the school curriculum is a poem, written by a child about her experiences of Bikeability. It shows a clear understanding of Bikeability and the specific points made during the training. See figure 11 below.
Here come the cyclists

Grace Palmer with Dorinda Palmer

Here come the cyclists
Weaving their way,
Hi-viz’s waving like yellow daffodils in the breeze,
Check, signal, check, move…

Trees wave gracefully as cyclists go by
Whiz go the wheels as they zoom on past,
The streets are live with the sound of pedal power,
Check, signal, check, move…

Flushes cheeks and energetic arms
Let drivers know a manoeuvre is coming,
Hearts race like a thousand drum-beats,
Check, signal, check, move…

There go the cyclists
Their eyes sparkling with vigilance,
Level 2 completed
Check, signal, check, move…

By Grace Palmer (age 10, Year 5)
Written during Grace’s school Bikability training.

Figure 11. Here Come the Cyclists – A poem about Bikeability.

The poem Here come the cyclists identifies and emphasizes the fundamental learning outcomes of the Bikeability course, for example, children are instructed to check before every manoeuvre to ensure they are aware of traffic, that they have seen what is around them and that it is safe to perform the manoeuvre. Her reference to ‘being vigilant’ is especially important, she has taken on board what the instructors are saying and she has relayed that into her poem. This child has been able to understand and comprehend the deeper meaning of Bikeability. The poem portrays feelings of excitement and joy, as well as showing exceptional literacy skills and a broader understanding of the scheme. She has been able to make an assessment of the scheme and exhibits that assessment in the form of a poem. The poem is not only a very accurate description of the Bikeability outcomes, it is an intellectual conversion of learning in a physical realm – riding a bike, to learning in an artistic and literary realm – reasoning about riding a bike.
Asking the children to express their feelings after Bikeability training is a good way to make sense of the activity and give the children the opportunity to reflect on their experience. It may be significant that children are expressing themselves creatively built on the practical experience of Bikeability and are offering this in a new form that is sharable through Literacy, that is, it exists and may inspire others in the future. The poem *Here come the cyclists* uses complex adjectives, adverbs and new words, critical for subsequent literacy development (Snow *et al.*, 2001). The children have to actively remember their own experiences, which in turn will aid in retaining the knowledge they have learned. Writing down their reflections in new ways such as the poem above may allow children to solve new problems they encounter, identify issues and ask questions after training, as Epstein (2003:3) has stated, ‘reflection is linked to the assessment of outcomes; this reflection is critical to mathematical and scientific thinking’.

Towards the concept of cycling within mainstream education, the national website for Bikeability (2014) does contain some useful resources for teachers (at Key Stage 2 only) including lesson plans, worksheets and various case studies from Primary schools who have implemented Bikeability. However, whilst these are very well produced on topics such as: benefits of cycling, know your area and know your bike, they are predominantly learning activities on topics which reinforce the Bikeability scheme alone. The resources could do much more to relate to the wider spectrum of subjects on the National Curriculum to capitalise upon what cycling has to offer more broadly in education. In appendix 10i some hypothetical schemes of work have been formulated at Key Stage 2 which relate cycling to a range of themes across the curriculum including:

- Knowledge and understanding of the world
- Problem solving, reasoning and numeracy
- Creative development
- Personal social and emotional development
- Physical development communication, language and literacy

In each case (in appendix 10i) some examples of teaching ideas and activities are offered to link cycling in its broader remit to National Curriculum learning and teaching. This may place Bikeability at the heart of learning in Primary schools (e.g. as a cross-curricula theme for a term) which might then be continued in Secondary school. Consequently, and in a similar vein, Appendix 10ii offers a hypothetical scheme of work to develop cycling as a cross-curricular pedagogy at Key Stage 3-4, linking all 12 subjects across the National Curriculum to some aspect of cycling:
These ideas for learning activities at Secondary school (appendix 10ii) are related to a range of topics from the arts and creativity, to history, science and music to mention only a few, but in so doing, placing the concept and activity of cycling at the centre of learning for a significant passage of school time (again for a term perhaps). By following such a plan the physical act of cycling, and the intellectual reasoning behind cycling ‘across the curriculum’, may be converted into literacy and numeracy which are the common educational currencies for trading across all subjects in schools to evidence/share meaningful gains in learning. Unfortunately, Physical Education is the one subject on the National Curriculum which has been slow, compared to the eleven other subjects, to capitalise upon literacy for learning and do more to develop it in their subject area. This oversight, if it is one, may be self-damaging given that PE does seem to have a natural advantage over other subjects to motivate children to write with passion and interest stemming from their enthusiasm, thoughts and feelings about sports and physical activity.

The National Strategy for Literacy and Learning in Physical Education (DfES, 2004) may be a vital document to help PE teachers incorporate literacy through the activity of cycling – in similar manner to how every other subject might do it in their specific interpretation of cycling – see appendices 10i, 10ii. For the subject of PE this tactic may be a direct route to raising its academic status and open up avenues for more differentiated learning and assessment, perhaps altering for the better, the traditional stereotype of what PE looks like in school. The opening points in the National Strategy for Literacy and Learning in PE (DfES, 2004:7) makes the links between literacy, PE and all other subjects very clear for the benefit of the child’s overall learning experience, stating:
The literacy and learning initiative seeks to take the process a step further by:

- Connecting the work of separate departments so that more impact is made on pupils.
- Linking literacy explicitly to learning, which is the core business of every teacher.

The framework identifies three main areas for development:

- Learning through talk.
- Learning from text.
- Learning through writing.

The framework is based on the following assumptions:

- Literacy skills need to be taught systematically and consistently.
- Pupils should be given regular opportunities to consolidate their literacy skills by using them purposefully in order to learn.
- All teachers in a school must share the responsibility for developing literacy and learning ‘hand in hand’.

One means to extending this cycling research project into mainstream education may be to implement some ideas from the appendices 11i and 11ii, or similar, and follow developments across subjects in a school. As Bikeability already has an excellent rapport with schools as a safety course with legal checks and consent procedures in place, this may well be a feasible research suggestion, promoting the theme of cycling as vehicle a for teaching and learning.

**Grazed knees, A and E and a bruised ego**

Road accidents (including cycling accidents) are currently ranked as the eighth largest cause of death in the world and it is predicted that by the year 2020 they will be the third largest cause (European Commission, 1999). Every year around 19,000 cyclists are reported in road accidents, of which around 3,000 are killed or seriously injured - with the majority of these being adults (RoSPA, 2013). However, in 2010, 61 children aged 0-15 were killed in cycling related accidents. Over 90% of child cycling accidents occur during the day with the most dangerous hours being 3pm to 6pm in the summer months. However, cycling accidents that occur in the dark are more likely to be fatal. The majority of accidents involving child cyclists are often the result of the child playing, doing tricks, riding too fast or losing control – nearly all near road traffic. However, interestingly, over one third of serious collisions happen when child cyclists cross the road at a pedestrian crossing (RoSPA, 2013). In 2006 there were 169 cycling fatalities amongst children aged 0-15. The number of fatalities since then has decreased every year, in line with the introduction of Bikeability in 2007. 124 children were killed in the UK in 2008, in stark contrast, 2012 saw 61 children killed in the UK in cycling related accidents. This is a 50% decrease in the number of casualties seen in the UK over the last four years.
However, attributing the fall in numbers solely to Bikeability cannot be assumed as other contributing factors must to be taken into consideration. Webster and Mackie (1996) found that implementing 20 miles per hour zones on urban areas reduced child cyclist injuries by 48%. Factors like bad weather conditions mean a decrease in numbers of cyclists on the roads and an increase of safer, more careful drivers over time may all contribute to fewer cycling accidents. Conversely, according to RoSPA (2012) some children are at a greater risk, e.g. low-income families and ethnic minorities. Their report shows how children from low income families are more likely to play in the street due to lack of garden space or parental concerns about the safety of public parks. During the field observations the researcher noticed two children with unkempt bikes; they looked rusty and poorly maintained (detailed in the extract below). These children could be from a lower income family; possibly unable to afford to maintain a bike properly. RoSPA (2012) claimed that a lack of money could impact on a family’s ability to invest in safety, either by purchasing new products, which could make their environment safer, or by replacing older products:

Extract from field observation notes – 9th December 2013

10.35am during the practical Bikeability training session
ON - I notice some children with unlooked after bikes.

TN - The 2 children with rusty unkempt bikes seem to be uninterested. This says to me they do not ride their bikes or maybe come from a poorer family where they have no bikes. Perhaps if they enjoy the training they will get a new bike or start using it more often.
The school where the Bikeability course was being run is in a poor socio-economic area. Edwards et al (2006) found that the fatality rate of children where the parents had never worked or were long-term unemployed was around 13 times higher than that of children where parents worked in a higher managerial or professional occupation. During the first interview, the parent had strong opinions (doubts and concerns) about his child riding on the road. He said that they live in a busy urban area near school and the streets are busy with fast moving vehicles. He explained that his child does play in the street but not on her bike.

**Extract from Interview 1 – 11am, 9th January 2014**

**NH** - To what extent do you think the Bikeability training will change your child’s confidence riding on the roads?

**Parent** – She might become more confident, but I doubt she will keep it up. She plays in the street but not usually on her bike, she stays mostly inside watching TV and playing on her IPad.

... I would still not trust the drivers around our area they drive ridiculously fast.

This parent’s response could be due to the lack of interest in cycling or it could be an over cautious influence discouraging her from cycling. However, it is true that the area a child lives in determines whether they may be inclined to cycle. For example, if friends and family live within walking distance of school there may be no need to cycle. Whereas if friends live further away, or school is within cycling distance these children are more inclined to cycle to speed up their journeys the bike becomes a vehicle; an aid to get around, rather than cycling for pleasure in itself.

To address the parent’s comment... I would still not trust the drivers around our area they drive ridiculously fast, the Bikeability scheme teaches children to ride on the roads, learning to cope with the traffic. Obviously this would be a concern for most parents and according to Ipsos MORI (2011) 92% of parents felt that the Bikeability scheme has improved their child’s confidence when it comes to riding on local roads – an issue also explored in the interviews:

**Extract from Interview 1 – 11am, 9th January 2014**

**NH** – The Bikeability programme teaches the children specifically to ride on the roads, how do you feel about that?

**Parent** – She won’t be riding on the roads to and from school, definitely not, it’s too busy. They can teach them all they want, but she’s too young to ride on the roads and the cars go too fast near us.

The parent stated clearly that his child would not be cycling on the roads which may dilute the primary focus of Bikeability. If parents do not permit or at least
encourage children to reinforce their road safety training and allow them to cycle as they have been taught then children may never maintain good cycling habits.

**Over the finishing line**

The aims of the study were to determine the effectiveness of Bikeability in three areas; i. whether the scheme can be related to the reduction of cycling accidents, ii. to investigate parents’ thoughts about the Bikeability scheme and iii. to explore children’s attitudes and abilities towards cycling.

 Whilst the researcher has attempted to establish a ‘picture’ in data – a glimpse into the experience of Bikeability training, limitations of the field methods may limit what can be claimed from that data. Some of the interview data is subject to bias being guided by the researcher’s questions in short semi-structured interviews. Longer, more unstructured interviews might yield deeper explanations of cycling experience from a parents’ perspective to guide the study further. Field observations were also limited to the Bikeability sessions only, when much more might be learned from openly observing a greater number of children near their homes or usual play areas (with parental consent) to consider if children choose to ride their bikes and are confident near traffic on their own. The pre and post questionnaires also started to create insights to children’s feelings about cycling but were limited in what they could reveal. Follow up to this might be to act as a classroom assistant in an open capacity and conduct a cross-subject project on cycling – exploring educational concepts in relation to Bikeability as summarised from the initial research mind-map Figure 1 and re-formulated in appendices 10i and 10ii.

 Whilst Bikeability may increase knowledge of safety it does not translate into a reduction in injury rates. Bikeability must go hand-in-hand with measures to create a safer cycling environment along with improving the behaviour of some motorists. Road safety education, including Bikeability is commonly used as an intervention to prevent accidents, but its effect might be limited because of the relative few whom it targets and the level of support some parents provide. In this study some parents felt the training would not be followed up and the children would revert back to their old habits, therefore the introduction of a course at Secondary school level may help to refresh children’s memories of training, but also re-confirm and intensify cross-curricular links between Bikeability and mainstream education subjects.

 Teaching skills like awareness, freedom and independence through the medium of cycling will greatly benefit children, as they mature. Not only are they becoming more self-reliant and confident they are also engaging in physical activity outdoors, which is a positive health benefit for both children and adults. However, some parents do not share this vision and will not allow their children to take part in Bikeability which is an interesting problem worthy of much deeper research.
Currently children can only take part in Bikeability if their parents give permission. These children will not experience the benefits Bikeability has to offer which seems to be much more than just cycle training – perhaps Bikeability should be a compulsory topic or thematic strand within the National Curriculum?

The way in which Bikeability is taught demonstrates a holistic approach to education, giving children the freedom to learn through their own experiences. If developing children into educated young people is a shared vision amongst teachers, instructors, education professionals and parents, then Bikeability may have a significant role to play in learning about the realities and sustainability of physical, mental and social well-being.

References


Key, J.P. (1997) *Research design in occupational education: questionnaires and interview as data gathering tools*. Oklahoma State University, USA.


Sustrans (2001) *Safe routes to school,* Newsletter, 14, Bristol.


# Appendix (1)

## Bikeability Proficiency Checklist

**Child:**

**Age:**

### Outcome 1 – Start of and pedal without help and stop without help

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unable to ride without assistance, unable to use brakes and have no concept of brakes</td>
</tr>
<tr>
<td>2</td>
<td>Cannot set of un assisted but can ride, understanding of brakes but ineffective use</td>
</tr>
<tr>
<td>3</td>
<td>Ride unassisted with little or no wobbling, use of brakes is effective but unconfident</td>
</tr>
<tr>
<td>4</td>
<td>Riding ability is good with no wobbling, brakes used well and stopping is controlled</td>
</tr>
<tr>
<td>5</td>
<td>Riding ability is excellent, braking is excellent and stopping is fully controlled</td>
</tr>
</tbody>
</table>

### Outcome 2 - Make the bike go where they want

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unable to ride without assistance</td>
</tr>
<tr>
<td>2</td>
<td>Able to ride but not able to control the bike and steer effectively</td>
</tr>
<tr>
<td>3</td>
<td>Reasonable riding ability, rider can steer effectively. The bike is not under full control</td>
</tr>
<tr>
<td>4</td>
<td>Able to maneuver the cones with little or no touching</td>
</tr>
<tr>
<td>5</td>
<td>No cones were hit and the rider has full control of the bike</td>
</tr>
</tbody>
</table>

### Outcome 3 – Stop quickly with control

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No concept of the brakes, and unable to tell which brake is which</td>
</tr>
<tr>
<td>2</td>
<td>Know what the brakes do, but have no concept of how to use them effectively</td>
</tr>
<tr>
<td>3</td>
<td>They understand which brake is which and that the back brake needs to be applied first, however the braking is ineffective and no immediate</td>
</tr>
<tr>
<td>4</td>
<td>Understanding of the 60/40 split and when and why brakes are used</td>
</tr>
<tr>
<td>5</td>
<td>Very effective use of brakes and confident stopping quickly</td>
</tr>
</tbody>
</table>

### Outcome 4 – Manoeuvre safely to avoid objects

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unable to control bike in a straight line</td>
</tr>
<tr>
<td>2</td>
<td>Able to control the bike in a straight line only, not having full control of the bike</td>
</tr>
<tr>
<td>3</td>
<td>Able to ride to ride in a straight line, repositioning after the avoidance is incomplete</td>
</tr>
<tr>
<td>4</td>
<td>Able to maneuver around the object, more practice is needed</td>
</tr>
<tr>
<td>5</td>
<td>Successful manoeuver with all aspects complete</td>
</tr>
</tbody>
</table>

### Outcome 5 – Look around, including behind without loss of control

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Riding in a straight line is difficult</td>
</tr>
<tr>
<td>2</td>
<td>Riding ability is severely compromised by looking around</td>
</tr>
<tr>
<td>3</td>
<td>Able to look around, however the looking ability is poor, they can not recognize features within the training</td>
</tr>
<tr>
<td>4</td>
<td>Looking around and bike control is average</td>
</tr>
<tr>
<td>5</td>
<td>Looking ability is good, the bike is in full control</td>
</tr>
</tbody>
</table>
### Outcome 6 – Control the bike with one hand

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Unable to control the bike with 2 hands</td>
</tr>
<tr>
<td>2</td>
<td>Riding is severely compromised when one hand is taken off the bars</td>
</tr>
<tr>
<td>3</td>
<td>Unconfident when controlling the bike with one hand, but can hold a signal for less the 1 second</td>
</tr>
<tr>
<td>4</td>
<td>Able to hold a 3 second signal but lacking in confidence</td>
</tr>
<tr>
<td>5</td>
<td>Signal and control is strong</td>
</tr>
</tbody>
</table>

### Outcome 7 – Ride along without help for one minute and use of gears

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unable to ride, no concept of gears or how to use them</td>
</tr>
<tr>
<td>2</td>
<td>Able to ride along for less than one minute, but has no concept of gears</td>
</tr>
<tr>
<td>3</td>
<td>One minute riding with limited understand of gears</td>
</tr>
<tr>
<td>4</td>
<td>Good understanding and ability to change from gear to gear and</td>
</tr>
<tr>
<td>5</td>
<td>Fully able to ride, understand and use gears effectively</td>
</tr>
</tbody>
</table>
Appendix (2)

Bikeability Levels

Bikeability Level 1
During Level 1 Bikeability training, participants learn to control and master the bike. The training takes place in an environment away from cars or traffic – usually in a playground or closed car park, training in groups of 3-12.

- Fit own helmet
- Carry out a simple bike check
- Get on the bike, start cycling, then stop and get off
- Ride your bike using the gears
- Control the bike, including moving around objects safely
- Control the bike with one hand
- Stop quickly
- Look all around when riding, including behind, without wobbling

Bikeability Level 2
Level 2 Bikeability takes place on local streets, giving participants a real cycling experience. Training involves dealing with traffic on short journeys such as cycling to school or the local shops.

- Start and finish a journey by road, including passing parked or slower moving vehicles and side roads
- Make a u-turn
- Identify and react to hazards in the road
- Signal intentions to other road users
- Understand where to ride on the road
- Use junctions, including turning left and right into major and minor roads
- Decide whether a cycle lane will help the journey
- Use the Highway Code, particularly when it comes to understanding road signs

Bikeability Level 3
When reaching Level 3 standard participants will be able to deal with more challenging roads and traffic situations. Level 3 training is delivered one-to-one or in groups of up to 3 so can be tailored to individual training needs. Level 3 training is suitable for adults or children at secondary school and covers dealing with hazards, making 'on-the-move' risk assessments and planning routes for safer cycling.

- Make a trip to school, work or elsewhere on any roads
- Use complex junctions and road features such as roundabouts, multi-lane roads and traffic lights
- Understand driver blind spots
- Know how (and when) to pass queuing traffic
- Identify and react to hazardous road surfaces
- Plan your route
- Interpret road signs
Appendix (3)

Bikeability Letter to Schools

Dear Primary School

<table>
<thead>
<tr>
<th>No of Trainees</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>xx</td>
<td>xx</td>
<td>10.00 – 12.00</td>
</tr>
<tr>
<td>xx</td>
<td></td>
<td>13.00 – 15.00</td>
</tr>
</tbody>
</table>

Thank you for spending the time discussing the requirements for Bikeability at your school. I have enclosed information regarding the Bikeability course, Go Velo and parental consent forms, which I hope is of interest to you. This course is fully funded via local authorities and bears no cost to your school or parents. There is no need for you to free up any staff members to assist in the training, however teachers and parents are more than welcome to observe, should they wish to. You have requested that 30 children are trained up, should you have fewer responses from your target year group, please throw this open to the whole of years 5/6. It is important that we achieve the number of children stated. The following dates have been booked for the training sessions:

1. ....................
2. ....................
3. ....................

For each training session, there will be a fully qualified instructor(s) present to deliver the training. Instructor to trainee ratio is maximum 1:6. All instructors are fully insured; first aid certified and holds current CRB checks. The first session will be delivered at the school playground, and subsequent sessions will take place on the quiet roads close to the school. We walk to our chosen location and the children are only allowed to ride their bikes one at a time. The area will be risk assessed prior to the sessions and a copy of the paperwork will be given to the school on commencement of the course. In order to participate, the pupils need a bike (preferably in good working order!), a helmet and suitable clothing – a number helmets can be supplied on request.

All children need to be already able to ride a bike, in order to complete Bikeability, however we are happy to teach children to ride a bike during these sessions. We will however need to know in advance if any of the children looking to participate are not able to ride.

I trust this is sufficient information to enable you to make an informed judgement as to how the course of Bikeability and Go Velo would benefit the children at your school. Should you require further information please contact me

Angela Brown

Director (AB): Go Velo for Bikeability
# Appendix (4)

**Bikeability Parent Consent Form**

You as a parent / guardian are asked to:

- Complete this form for the child you wish to take part
- Return the completed form to the school before the first session
- Ensure that your child’s bike is in good working order and suitable for riding on the road i.e. working brakes (front and back) and pumped up tyres. Please note children will not be allowed to take part if their bike is considered unsafe.
- Provide your child with a cycle helmet or reserve one through school – Helmets are compulsory.
- Indicate below any medical conditions your child suffers from that you feel instructors should be made aware of for a cycling course.

---

**Bikeability Consent Form**

I give permission for my child to take part in a Bikeability cycling course. I understand that most of the training will take place on public roads, under supervision. I agree that my child can take part without any liability in respect of any injury or any loss or damage to property that is not caused by an instructor’s negligence.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female (please circle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child’s Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year Group</td>
<td>Five</td>
<td>Six (please circle)</td>
</tr>
<tr>
<td>Relevant Medical Info</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent /Guardian Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency Contact Number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signed (Parent / Guardian)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for completing this form.
Appendix (5)

Bikeability Letter to Parents

Dear Parents,

Go Velo is delighted to work with children from Leaver House Primary School, helping pupils to learn to live healthy lifestyles. Cycling is one of the easiest, cheapest and most enjoyable ways of keeping fit.

This is why we are offering Bikeability training to all pupils in year 5 and 6. Bikeability is cycling proficiency for the 21st century, giving pupils the skills and confidence to cycle in today’s traffic conditions. Pupils will complete level 1 at the school playground on the first session, followed by the remaining sessions being held on quiet roads close to the school to complete level 2. Pupils are escorted on foot to the chosen area and are given high visibility vests to wear during the sessions. Only one pupil rides at a time and we work on a maximum instructor to pupil ratio of 1:6. There will always be 2 instructors present during the training.

All instructors are fully qualified Bikeability instructors, British Cycling coaches and British Cycling lead riders. We are all CRB checked and first aid qualified.

In order to participate, your child needs access to a bicycle (in good working order, please!), a helmet (we can provide these) and suitable clothing. If your child would like to take part but does not have a bike, we are happy for your child to share with a friend. This must be agreed between parents beforehand. It is important that your child can already ride a bike before embarking on road safety; however we may be able to teach your children to ride during the sessions – please contact your school for information.

Children must attend all sessions and complete all outcomes in order to pass level 2. They will receive certificates, badges and road safety material on finishing the course. The sessions will run on the following dates:

<table>
<thead>
<tr>
<th>No of Trainees</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>xx</td>
<td>xx</td>
<td>10.00 – 12.00</td>
</tr>
<tr>
<td>xx</td>
<td>xx</td>
<td>10.00 – 12.00</td>
</tr>
</tbody>
</table>

Please do not hesitate to contact us if you have any questions.

Yours Sincerely,

Angela Brown

Director (AB): Go Velo for Bikeability
Appendix (6)

Field Notes – Overt observations of a level one training session

- Basic level one objectives:
  - Fit own helmet
  - Carry out a simple bike check
  - Get on the bike, start cycling, then stop and get off
  - Ride the bike using the gears
  - Control the bike, including moving around objects safely
  - Control the bike with one hand
  - Stop quickly if needed
  - Look all around when riding, including behind, without wobbling

Field observer: Nicola Hamilton
Date: Monday 9th December 10am – 11am
Location: Local Primary School
18 pupils 8 girls and 10 boys
Year 6 pupils (11 years old)

Lead Bikeability Instructor – Chris Denton (CD – Local Council)
Assistant Bikeability Instructor - Elizabeth Fairweather (EF – Local Council)

10am – introductory talk in the hall

Observational Notes (ON)
The instructors have introduced themselves and me as someone who will be watching the session. The children are allowed to use my name as I feel it necessary for the children to know me and become comfortable with me watching them. The instructors are telling the children about the training before collecting their bikes. The children have each got a helmet in front of them. Some children have their helmets on already. Most children have coats on but no gloves, scarves or hats, which they were instructed to bring because it is December and it is cold outside.

Theoretical Notes (TN)
I have been part of the Bikeability training session numerous times, so I know what is coming next. I focus on the conversations going on amongst the children while the instructors are talking. One conversation I overheard was a child explaining that he rides his bike frequently, almost every day and therefore doesn’t need to do the training. Other than this conversation, the children seem reasonably engaged although one child is notably inattentive. This child I will watch more closely when he is in training.

Methodological Notes (MN)
The children could see me throughout the talk given by the instructors, the conversation two boys I overheard was hushed to prevent me hearing. The boys’ reaction to me listening made him lower his voice even more. Showing that my presence is already obstructing views and changing opinions. The children were informed of my presence, that I was not there as an instructor, however they were not told what I was actually doing. This means they hopefully will not change their behaviour too much.
10.15am – moving outside to the playground and getting bicycles

Observational Notes (ON)
The children rush to get their bikes; some are scooting on one side instead of walking. The children are riding around the playground without helmets on. Giggling and looking excited to start training. The children are told to gather in the centre of the playground. The instructors are now going through the M check with the children. Most are listening however one boy is talking about his bike and fiddling with his lock. The girls in the group seem to be sticking together with girls and boys standing separately. I can see the children watching me and looking to see what I am doing. They have been told I am watching them but they don’t know what for.

Theoretical Notes (TN)
Already the children are not listening to instructions, they have all run at once to gather their bikes and this could cause injuries. If the children did what they were instructed to do the process of getting their bikes would be much quicker. There is no intervention from the instructors who seem to be battling with the cold. I can see the boys who think they know everything; they are riding around the playground shouting to each other. This shows confidence but it can become a nuisance. I have noticed that children are very nosy and like to know what’s going on everywhere.

Methodological Notes (MN)
I am struggling to hear any conversations because we are now outside on the playground. I can see conversations taking place, however I cannot hear them. The girls are standing together; they are concerned with the helmets and the weather. My position is not affecting any behaviour at this point. The children just seem to be excited to be out of the classroom. A few children have approached me and asked my full name and are interested in what I am doing became I have a clipboard and none of the other adults do.

10.35am – getting the practical session started

Observational Notes (ON)
Finally the instructors manage to get the children’s attention and stop them from riding around on their bikes. The instructors are now going through the M check. The children are instructed to stand on the ‘clean’ side of their bike, which is the side without the chain. Most children have followed the instructions. All the children are now taking part in the M check. I wander round the groups of huddled children to see if I can overhear conversations. I notice some children with unlooked-after bikes. As I walk round the children start asking questions and making conversation with me.

Theoretical Notes (TN)
I can see already which children are going to become out-spoken and unruly. One boy keeps cropping up. I mention it to the instructor who knows the child. We approach the teacher and ask about this child. The teacher tells us both he has a form of autism and needs constantly refocusing on the tasks. The two children with the rusty and unkempt bikes seem to be uninterested. This says to me they do not ride their bikes often or maybe come from a poorer family where they have had to share bikes. Perhaps if they enjoy the training they will get a new bike or start using it more often. I also wonder how the child with autism will perform and whether the instructors will treat him any differently.
Methodological Notes (MN)
I am struggling not to help out with the training, however I need to keep my position as a researcher and observe without intervention. When I was walking through the groups the children’s conversation seemed to stop. I do not want to tell the children I am watching them but I feel they already know what I am watching for. I am limited in what I can say and what I can hear from my vantage point, so when walking round I tried to stay a safe distance away to limit my effect. I am trying to keep away from the children and maintain my position as a complete observer.

10.50am – session fully underway
Observational Notes (ON)
The training is now fully underway; the children are riding around the playground performing the outcomes. They have been split into two groups; each instructor has taken a group and is using a different part of the playground. I have decided to stand with the lead instructor. I can see the children who are paying attention; they are really keen to ride and are waiting patiently. I can see some children who are looking around, not listening, not engaging and do not seem interested in cycling.

Theoretical Notes (TN)
I am wondering why these children are not paying attention, are they not interested in cycling? Can they ride properly? Are they embarrassed about riding in front of others? Are they afraid of failing? I wonder if they are children who are not interested in cycling. Are they going to pass Level One and be allowed out on the road? I have not seen any poor riders so maybe it’s a case of not wanting to instead of can’t.

Methodological Notes (MN)
I am standing in earshot of the children; they are now not interested in my presence and are carrying on with training. I overhear a conversation talking about positioning and performing the outcomes. The boy is already thinking about the road cycling and whether he will pass or not. My presence doesn’t seem to be effecting the conversation; however I feel maybe I am being a little biased with my opinions of the children’s abilities. Remember, I am the researcher and not instructing them nor am I watching the children for pass or fail purposes.

10.55am – a behaviour incident and reflection
Observational Notes (ON)
There is one boy that is causing trouble, not being naughty, he is just not interested, he would rather fiddle with his bike and look around pointing out cats and dogs that walk by. He is always talking and disrupting the other children, something I have noticed along with both of the instructors. His name is mentioned nearly every sentence. I am standing quite close to the child and am making an effort to watch him to see why his behaviour is different.

Theoretical Notes (TN)
The lead instructor approached me and asked me to ask the teacher to see if she had any problems, however the teacher was only a sub and didn’t really know the child. When the training had finished I went to the teacher of a different class and asked about this boy. She told me he is always like that and that he has a form of autism. I have never (that I know of) taught a child with autism before, however I have had children that have behaved like this. Maybe I have taught children with autism before, would I treat them differently if I knew?
Methodological Notes (MN)
Has my position changed? I feel I am quite involved with the training now, the children are asking me questions in relation to Bikeability. Maybe I am a complete participant now? Will this effect the children’s behaviour or will it allow them to trust me and behave normally?

11.30am – the Bikeability session comes to a close

Observational Notes (ON)
The training is coming to an end; the children are asked to ride in a big circle to test their understanding of gears. I can see the instructors talking amongst themselves. The children seem to be enjoying the ride. They are laughing and enjoying themselves. The weather is cold but it’s sunny so this helps the training.

Theoretical Notes (TN)
The weather makes a huge difference on the training, when it’s cold but sunny like today the children enjoy training, they get cold hands and red noses but it’s an enjoyable experience. What if the weather is different tomorrow for the next part of the training, will they be as joyful and as excited to get started?

Methodological Notes (MN)
The children may be behaving better because it is the first day, they want to make a good first impression, and maybe tomorrow we will see some bad behaviour? We are all new teachers/visitors to the school and they do not know us so this could be a disadvantage because the children are behaving differently – on their ‘best behaviour’ for visitors.
Appendix (7)

Interview Respondents Informed Consent Form:

Name/Affiliation of Researcher: Nicola Hamilton, Undergraduate Research Project for BA (Hons) Sports Coaching and Development at the University of Central Lancashire.

General Area of Research: Thoughts and feelings surrounding cycle training, specifically Bikeability

Title of Study: Is Bikeability Effective?

Dear interviewee: Please read this form carefully and complete it. If you are willing to participate in this study, please circle the appropriate responses and sign and date the declaration at the end. If you do not understand anything and would like more information, please ask the named researcher.

1. I have had the research satisfactorily explained to me in verbal and/or written form by the researcher. YES / NO

2. I understand that this aspect of the research will involve one, fifteen minute (max) face-to-face interview. YES / NO

3. I understand that I may withdraw from this study at any time without having to give an explanation. This will not affect my future care or treatment. YES / NO

4. I understand that all information about me will be treated in strict confidence and that I will not be named in any written work arising from this study. YES / NO

5. I understand that any recorded material of me will be used solely for research purposes, will be stored securely and will not be used out of context. YES / NO

6. I understand that aspects of data I provide may be used in publication and that my identity will be protected/concealed/anonymised. YES / NO

7. I understand that you will be discussing the progress of your research with your research supervisor/tutor at University. YES / NO

8. I freely give my consent to participate in this research study and have been given a copy of this form for my own information. YES / NO

Name……………………………………………………………………………………

Signed…………………………………..                  Date…………………………..

Nicola Hamilton and Clive Palmer
# Appendix (8)

## INTERVIEW TRANSCRIPT NO. 1

**Interviewer:** Nicola Hamilton  
**Interviewee:** Parent 1  
**Date:** 11am, 9<sup>th</sup> January 2014  
**Location:** Local Primary School  
**Enquiry:** Is Bikeability Effective?  
**Schedule:** Created from themes emerging in field observations but also drawing on literature and personal experience of Bikeability.

<table>
<thead>
<tr>
<th>Verbatim typed record of utterances, questions and responses.</th>
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<tbody>
<tr>
<td><strong>Questions in Bold</strong></td>
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<tr>
<td><strong>NH</strong> - What do you consider to be the main benefits of your child riding a bike?</td>
<td>Peter is not making masses of eye contact, there are children outside on break and they are causing a distraction.</td>
<td>Quite blunt, straight to the point, I am writing the answers down in note form. This is a very open question, mainly to see what he thinks about cycling and whether he is a supporter.</td>
</tr>
<tr>
<td><strong>Parent</strong> – I think riding a bike is good as long as the conditions are safe, she knows what she’s doing and she’s confident</td>
<td>I can sense that parent doesn’t really know much about Bikeability and is not keen on the principles. He has is arms folded now, however his face is smiling and still looks pleasant.</td>
<td>This is quite a different kind of conversation than I had hoped for. He doesn’t seem to be behind the idea of Bikeability and I feel maybe my opinions and my bias is making the situation heated? I don’t mean to have such strong opinions but the children who don’t have support from parents are negative and don’t want to participate.</td>
</tr>
<tr>
<td><strong>NH</strong> - What are your main concerns about your child riding a bike on local roads?</td>
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<tr>
<td><strong>Parent</strong> – We live in quite a busy area, so she would have to ride on the pavements, I wouldn’t be happy her riding on the roads.</td>
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**NOTE TO RESEARCHER**  
He nods in understanding, but I am writing the notes so the interview is stilted, lacking flow. **I need to record the interviews next time** and then transcribe them, the listening and writing phase of the interview is ruining the flow of conversation and I can see him getting frustrated. He has after all given up her time for me.
| **NH** – The Bikeability programme teaches the children specifically to ride on the roads, **how do you feel about that?** |  | **I have found the children follow in the parents’ footsteps, this parent clearly doesn’t ride his bike, if he owns one? nor does he encourage his child to. I hope not all the parents are like this.**

**Parent** – She won’t be riding on the roads to and from school, definitely not, it’s too busy. They can teach them all they want, but she’s too young to ride on the roads and the cars go too fast near us.

I need to change my tone, I feel I am taking the criticism personally when I am only the researcher, my opinions should not tint the data.

But…

I want to find out more about this man, if he rides a bike, if he has one and if he encourages his children/child to be active and more specifically, cycle? |

| **NH** - **How important is it that your child receives formal cycle training?** |  | **I get the feeling that this parent is not that interested in Bikeability and its benefits, maybe if I told him exactly what Bikeability is. However he should have got the letter and knows roughly what it is.**

**Parent** – I don’t think its essential, like math’s or English. We did cycling proficiency when I was a boy so I guess its been going a while.

Again his arms are folded, indicating closed body language. He is wearing informal dress, bit of stubble and slightly over weight. This indicates to me that maybe he is not active and possibly doesn’t ride a bike or exercise. That is just a first impression.

I wonder if he read it?

I wonder if parents like this are the reason for the children having an uninterested attitude towards cycling, and even being outside/outdoors. Maybe the sociocultural groups the children have grown up in, make them less inclined to be outdoors? I wonder what participation barriers certain children face. |

| **NH** – **To what extent do you think the Bikeability training will change your child’s confidence riding on the roads?** |  | **I haven’t spoken to any parents before and if they are all like this Bikeability may get a negative image.** |
**Parent** – She might become more confident, but I doubt she will keep it up. She plays in the street but not usually on her bike, she stays mostly inside watching TV and playing on her IPad. I would still not trust the drivers around our area they drive ridiculously fast.

I’m not getting anywhere with this parent, I think the questions [I am asking] don’t flow very well, I am taking notes at the same time and its taking longer than I probably outlined to him.

I need to move on swiftly and wrap it up. His arms are still crossed and even his face is losing interest now.

His answers aren’t aggressive at all but I can hear a slight hint of disapproval of the scheme.

I was hoping for positive comments about the scheme in my first interview and how it could be useful and beneficial to the children. What if all the parents are like this, the children will be uninterested and unwilling to engage.

I think it all stems from the parent. If they are open minded and willing to try things, the children become the same. We need children who are confident and open-minded not negative kids that sit inside!

I wonder if there is a difference between mums and dads and the gender of the children?

**NH** – Final question, Bikeability has been introduced as the cycling proficiency for the 21st century, I would like to know, **what you think about the Bikeability?**

**Parent** – I read the letter my daughter brought home, and read a little bit about what Bikeability is. It’ll be good for them to learn how to ride a bike properly, the only thing I would say is that most parents don’t have time to take there kids out and keep up what you lot do at school. So yes the training will be good for them, but it won’t last and riding on the roads seems dangerous to me personally.

This is a very open question and I am not really looking forward to the answer from this parent, I don’t think he fully understands what the training is aiming to do and how much training it involves.

He has uncrossed his arms now but there are children in the corridors and classrooms that are becoming a greater distraction for both of us.

He can’t get past the road issue. The children are taught to ride on the road because it’s actually illegal to ride on the pavement. I didn’t mention this to the parent though. Safety seems to be a recurrent theme.

Thank you for your time and speaking to me.

Interview stopped at 9.20am
INTERVIEW TRANSCRIPT NO. 2

**Interviewer:** Nicola Hamilton

**Interviewee:** Parent 2

**Date:** 9am, 15th January 2014

**Location:** Local Primary School

**Enquiry:** Is Bikeability Effective?

**Schedule:** Questions revised and reframed stemming from interview 1

**Researcher note:** The interviews were originally going to be structured, asking the same questions to all the interviewees, however I have found that is not the best way to develop and explore information. I have changed the questions slightly to get more lines of enquiry and to try to reduce bias (leading) in my questions.

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<tr>
<td><strong>NH - What do you know about Bikeability and what do you think of the scheme itself?</strong></td>
<td><em>I am using the Dictaphone / voice recorder on my phone to record this interview.</em></td>
<td>This parent seems to be active, as she is wearing a sports kit, she is interested in the questions and seems relaxed when answering them.</td>
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<td>Parent – I don’t know a great deal about Bikeability, only what was brought home from my son but I think Bikeability is a good idea. I am confident with my son’s ability to ride but any outdoor activity is good.</td>
<td>She is wearing what looks like a sports kit, she is slim and looks very active.</td>
<td>I wonder what sport she plays and if that has rubbed off on her children?</td>
</tr>
<tr>
<td><strong>NH – Bikeability is cycle training that teaches the kids cycling safety for today’s road conditions, its mainly for the journey from primary school to high school, bearing that in mind. In what way do you think the Bikeability training will be useful or beneficial to your son?</strong></td>
<td>I am trying to get the answers I am looking for so I ask another question about the benefits of the scheme.</td>
<td>She has mentioned her family, I wonder how many children she has and if they are all as active as she is making out. She seems to have a lot of pride and confidence for her son, which I think can help a great deal with things like Bikeability. Having parent’s support is vital.</td>
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<td><strong>Parent</strong> – We do a lot of cycling, as a family anyway, so any more skills he can learn while out today will be good for him. He is very confident anyway so I think he’ll pass with flying colours.</td>
<td>This parent seems to be 100% confident in the scheme and its purpose, more parents should be like her!</td>
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| **NH – Do you think it’s a beneficial scheme be running at this age?**  
**Parent** – Yes very much so, starting them young sets them in good habits. | Smiling now, nodding.  
More parent confirmation of the scheme and physical activity. |
| **NH – Your last answer leads nicely to my next question. As a family do you do a lot of outdoor activities and enjoy being active?**  
**Parent** – Oh very much so, we try to take the kids out for some sort of activity every weekend. It’s good for them but good for us to, means we don’t have to go to the gym as much!  
**She is very animated when she is answering, lots of hand movements, solid eye contact and this is clearly an area of her life she is proud of or enjoys talking about** | The more active the family, I think the more active the kids are going to be.  
She said they go to the gym, they must lead a healthy lifestyle. This is the type of parent I like; they are supportive of the cause and encourage the child to be healthy and active. I wonder what sort of jobs they do and whether economic factors play a part? |
| **NH – You mentioned you like to do activities every weekend but How often would you say you yourself cycle?**  
**Parent** – We try and do something every weekend, cycling depends on the weather so I would probably say much more in summer, but in winter less than twice a month, we tend to go swimming or | I nod in approval, she is smiling and I can sense that she is proud of the level of activity she does. She must be at least 40 years old, and looks really good for her age.  
She seems to have an open mind and is keen to help her child in any way she can. I think maybe she could be a PE teacher or works in sport. Based on the dress and the level of activity. |


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| **NH – Do you think it’s a beneficial scheme be running at this age?**  
**Parent** – Yes very much so, starting them young sets them in good habits. | Smiling now, nodding.  
More parent confirmation of the scheme and physical activity. |
| **NH – Your last answer leads nicely to my next question. As a family do you do a lot of outdoor activities and enjoy being active?**  
**Parent** – Oh very much so, we try to take the kids out for some sort of activity every weekend. It’s good for them but good for us to, means we don’t have to go to the gym as much!  
**She is very animated when she is answering, lots of hand movements, solid eye contact and this is clearly an area of her life she is proud of or enjoys talking about** | The more active the family, I think the more active the kids are going to be.  
She said they go to the gym, they must lead a healthy lifestyle. This is the type of parent I like; they are supportive of the cause and encourage the child to be healthy and active. I wonder what sort of jobs they do and whether economic factors play a part? |
| **NH – You mentioned you like to do activities every weekend but How often would you say you yourself cycle?**  
**Parent** – We try and do something every weekend, cycling depends on the weather so I would probably say much more in summer, but in winter less than twice a month, we tend to go swimming or | I nod in approval, she is smiling and I can sense that she is proud of the level of activity she does. She must be at least 40 years old, and looks really good for her age.  
She seems to have an open mind and is keen to help her child in any way she can. I think maybe she could be a PE teacher or works in sport. Based on the dress and the level of activity. |
rock climbing when the weather’s bad. If it’s nice weather though I do try and cycle to work.

I think I might try and find out where she works, I am going off my interview schedule but I feel it’s important to know where she works as she seems very active and I have a feeling it’s going to be sports orientated.

**NH** – You say you cycle to work, do you mind me asking where you work and roughly how far it is to cycle?

**Parent** – No no that’s fine, yes I work at a primary school in Leyland and today we are doing PE first thing actually. I would say it’s about 20 minutes ride in traffic, but I tend to stick to the pavements.

I am trying to find out as much as I can without going too off topic hence the relation to cycling.

I thought she was very active for a [normal] parent. This explains quite a lot, however she didn’t know much about Bikeability so maybe it hasn’t come to her school yet, or maybe she teaches lower years, in that case she won’t see the training in her classes.

In Bikeability we teach the children to NEVER ride on the pavements so I’m guessing her child will be weary about riding on the roads.

We have to break these bad habits but then again, the child will probably go back to riding on pavements when they are with mum and dad.

NH – I have taught Bikeability in schools around Leyland I’ve probably been to yours! Now you’re obviously confident at cycling and riding to and from places, you mentioned you ride on the pavement, **how would you feel if I told you Bikeability teaches children to ride on the roads?**

**Parent** – I ride on the pavement for ease, when I do cycle to school, it’s in

She is shifting in her seat and has her hands lock together, maybe she does not like what I am saying, however her answer is fair. Still got solid eye contact; I can tell she is a teacher.

I have been teaching Bikeability for about 3 years now and I get frustrated with people riding their bikes on the pavement but I am biased so I understand her reasons.
<table>
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<th>rush hour and it’s more hassle riding on the roads at that time. I think my son will be fine riding on the roads. I think you mentioned before it’s for riding to high school. The high school he is going to will be fine to ride to. He’s a sensible kid anyway.</th>
<th>The programme teaches children to ride on the roads, by the sounds of it she rides on the pavement to speed up her journey. I hope she backs up the training and sticks to the roads. I think parents can learn a lot from Bikeability not just children.</th>
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<td>NH – My final question is do you feel its good for the children to learn about cycling at this age and at this time of the school year or do you think it could potentially be seen as a waste of school time?</td>
<td>I want to know what she thinks about the scheme, even though she doesn’t know too much about it. The aim is to find out if parents think it’s good and effective and if the children enjoy it and actually learn something. She and I are a little biased because we work in sport and a passionate about it however I need to get the feelings of non-sporting people to get an equal view on cycling and Bikeability.</td>
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<tr>
<td>Parent – As a teacher myself and highly involved with sport and the PE side of things, I think anything that will get the kids active is fantastic. I don’t think anything that gets children active and outside is a waste of time. More and more children are staying in and getting overweight. I think Bikeability is a fantastic idea.</td>
<td>She is smiling as she answers and I think she is being very genuine. However she is looking at the clock now, I feel she has had enough and is looking to go so I am finishing the interview at 9.23am.</td>
</tr>
<tr>
<td>NH – Thank you for your time and speaking to me.</td>
<td>Recording stopped at 9.23am.</td>
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</table>
INTERVIEW TRANSCRIPT NO. 3

**Interviewer:** Nicola Hamilton  
**Interviewee:** Parent 3  
**Date:** 9am, 23rd January 2014  
**Location:** Local Primary School  
**Enquiry:** Is Bikeability Effective?  
**Schedule:** Questions revised and reframed stemming from interview 2

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<tr>
<td><strong>NH</strong> – Hi my name is Nicola and I am conducting research around the effectiveness of Bikeability cycle training. I will be asking roughly around 5 questions about Bikeability. So my first question is <strong>What do you know about Bikeability?</strong></td>
<td><em>I have used the Dictaphone/voice recorder on my phone to record the interview. I have practiced using it and it seems to work as long as the interview doesn’t last too long.</em></td>
<td>This parent has done some research about Bikeability, he is obviously highly interested in what his children are doing at school. I wonder how many children he has and whether he is active himself. He is casually dressed, quite young looking say probably 35-40 years old. He seems quite different to the first interview, he is really keen to answer the questions, and seems positive about Bikeability. Maybe interviewing two males and one female is not getting a full range of views, I might have to schedule in another interview with a female that way it is even and hopefully more angles will be covered.</td>
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<tr>
<td><strong>Parent</strong> – I have read the letter sent home and then did a bit of internet searching. I know its 2 levels, playground training then on road training. <strong>NH</strong> – that’s a lot more than most parents I’m impressed.</td>
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NH – In what way do you think the Bikeability training will be useful or beneficial to your son?

**Parent** – I think it will benefit him immensely. He could do with being more outgoing and independent, he’s a mummy’s boy, so his mum does do a lot for him.

He has been pestering for a new bike for ages as well, so if he passes this I might think about buying him a new one.

NH – We better make sure he passes then! Does he ride his bike often?

**Parent** – More so in summer, he’s soft and doesn’t like cold or wet, I told him to bring gloves and scarves and everything so he’s prepared for the cold.

Respondent uses his hands to speak with the question. That to me portrays confidence. There is some laughing and joking in the interview and I am much more relaxed as I’m not having to make notes of everything he is saying.

I am still making notes of inferences and interesting points I may later refer to.

Like the first interview the only time available was 9am the start of school. This means lots of distractions.

However he has very strong eye contact, sometime it’s too much and I have to look away. He is very confident, I wonder if its part of his job?

The interview is going very well, running smoothly and feels more like a conversation that an interview.

His body language is very relaxed and he seems comfortable in this situation.

This parent seems to support Bikeability. Interesting point about being more independent. I think he is quite a laid back guy and this is good for children. They are able to have freedom and make their own decisions. Possibly learn from mistakes.

This is the second time he’s used the phrase mummy’s boy – I wonder if there are some deeper issues here beyond the scope of this interview – I will not probe the use of this phrase.

NH – Do you think it’s a beneficial scheme to be running at this age?

**Parent** – erm yeah I guess so, he’s only just moved into top class so it’s not really taking away from his SATs.

He could do with being more out going and independent, he’s a mummy’s boy, so his mum does do a lot for him.

This is a very positive sign, I very much like supportive parents and to promise Joe a new bike is very promising. I have instantly come to like this parent, he is positive, well mannered, seems to be quite interested in my interview and is not letting the children distract him.

I am still wondering how many children he has, if his child is actually a ‘mummies’ boy, I wonder if he has girls or if he’s an only child.

From his appearance he seems to be quite active, looks good for his age.
**NH - What would you say if the training was in April just before they were due to start?**

**Parent** – well I don’t think it should be allowed because SATs are still quite important I think? They should have a few weeks off so they can concentrate on the exams. We have had to take a few weeks off in-between training because the teachers are not happy with the children not concentrating on SATS. Hence the questions. I think it’s a good reward for the children and incorporates cross-curricular subjects anyway. Maybe he has a point about the exams.

**NH - Moving on As a family do you do a lot of outdoor activities?**

**Parent** – Yes and no, my wife works away a lot so I am in charge of activities. But I’ve got 2 girls and I boy so finding activities we can all do and all like is a challenge. He is quite hands on though, likes to do gardening and playing with Mechano so he is quite handy. This is good, they do activities, the children play together but more importantly that his child is ‘hands on’, likes to get stuck in, practical. These are the children that instructors like, they are engaged, interested and want to take part. The Mechano is great for mechanical understanding. Children with an understanding of mechanical things are creative and they understand how things work – or at least inquisitive to find out. This is good for the M Check at the start of the training. I bet this man’s son will be getting stuck in and getting his hands dirty.

**NH - So tell me the sorts of sports things you all get up to as a family?**

**Parent** - Most of the time the girls want to go dancing or singing or doing makeup, messy girly things but my son quite likes playing on his own in his room with his Lego building things and taking things apart and fiddling with them. That’s a shame he plays on his own. He could do with making some friends in the street to play with, they could go play out together and ride their bikes. Maybe they don’t live near school or live in a quieter area, which means the children can play out and they don’t have to worry about really dense traffic. Learning the skills is one thing but practicing them is another.
<table>
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<tr>
<th>NH - Do you ever do outside activities like bike riding?</th>
<th>They live in a cul-de-sac so there will be less traffic than on an urban road. This is probably why they let him play out.</th>
</tr>
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<tbody>
<tr>
<td><strong>Parent</strong> – we do try but coordinating three children is quite hard work, we live in a cul-de-sac so the kids ride round the street but the girls lose interest. ... [pause]</td>
<td>Interesting point- no one on the street to play with other than his father? – this boy needs to explore further afield – on his bike.</td>
</tr>
<tr>
<td>My son has no one on the street to play with apart from me. I would let him play in the next street but his mum’s not keen.</td>
<td>Bikeability teaches children to be independent so hopefully they will let the child be more independent and have more freedom.</td>
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<tr>
<th>NH – How would you feel if I told you Bikeability teaches children to ride on the roads?</th>
<th>It is interesting he said he might not stick to it. Is that a parental influence or because he knows his son.</th>
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<tr>
<td><strong>Parent</strong> - I think it’s good for them to learn about the roads and everything. We live in a quiet area, quite a drive away from his school. It’s doable on a bike though I reckon.</td>
<td>This tells me that the parent’s influence the children a lot and if their parents have a decent level of knowledge about cycling, or even just being active, the children will follow in their foot steps. Not always true but mostly.</td>
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<tr>
<td><strong>NH – So you’re not too worried about him learning on the roads then?</strong></td>
<td>I wonder if he gives this level of freedom to the girls as much as his son?</td>
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<tr>
<td><strong>Parent</strong> - No not at all. I’m not sure he’ll stick to it but it’s good for them to learn. We do some cycling… it’s mostly on cycle paths though, because of the girls.</td>
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</table>
NH – do you feel its good for the children to learn about cycling at this age and at this time of the school year or do you think it could potentially be seen as a waste of school time?

Parent - I don’t think teaching children anything is a waste of time. Children and adults actually should cycle more, it’s healthy, and better for the environment, so getting them in good habits is really good for the kids. I can see how some parents would view it though.

NH – What do you mean by that?

Parent – Well some parents don’t like their kids out and riding around or doing anything. They would prefer them inside, safe wrapped in cotton wool. I mean when I was little we played out till it was dark every night; we would come in for tea and go straight back out. These days I think parents can be a little bit over protective. Let your kids live a little I say.

This is good, this is what I wanted to find out, different views from different parents.

I don’t know what this parent does for a living like the previous interview, his opinion may be swayed by what he does.

I think this is a positive attitude and one I hope most parents have. However I know this is not the case.

I like the fact that he lets his kids play out and that he trusts them. This links to the freedom outcome of Bikeability.

I suspect that his son will be a confident rider as he has supportive parents.

Obviously I won’t know which child is his son which is a bit annoying because a direct comparison or link would be good.

NH – Thank you for taking the time to speak to me.

Recording stopped at 9.25am.
Appendix (9i)

Bikeability pupil questionnaires: pre and post evaluations

Pre-Bikeability Questionnaire

1. Do you have your own bike? YES/NO

2. How often do you ride your bike? (circle your response)
   - Always
   - Sometimes
   - Hardly ever
   - Never
   - Don’t know

3. Where do you ride your bike? (circle your response)
   - In the park
   - In the garden
   - On the pavement
   - On cycle paths
   - Other: ___________________________________________________

4. How confident are you riding your bike? (circle your response)
   - Very confident
   - Quite confident
   - Not very confident
   - Not at all confident
   - Don’t know

5. How safe do you feel riding your bike? (circle your response)
   - Very safe
   - Quite safe
   - Not very safe
   - Not at all safe
   - Don’t know

6. What do you think you will learn from Bikeability?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

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Appendix (9ii)

Bikeability pupil questionnaires: pre and post evaluations

Post-Bikeability Questionnaire

1. How good do you think Bikeability Training is? (circle your response)
   - Very good
   - Fairly good
   - Neither good nor poor
   - Fairly poor
   - Very poor
   - Don’t know

2. How confident do you feel about riding your bike? (circle your response)
   - A lot more confident
   - A little more confident
   - No more or less confident
   - A little less confident
   - A lot less confident
   - Don’t know

3. How safe do you feel riding your bike? (circle your response)
   - Very safe
   - Quite safe
   - Not very safe
   - Not at all safe
   - Don’t know

4. How often will you ride your bike after Bikeability? (circle your response)
   - A lot more often
   - A little more often
   - No more or less often
   - A little less often
   - A lot less often
   - Don’t know

5. What have you learnt from Bikeability?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Appendix (10i)

National Curriculum strand/themes: some ideas for curriculum planning

Bikeability at Key Stage 2 (cycling as cross curricular theme)

**Physical Development**
- How could you use your bike to maintain a healthy lifestyle?
- What physical skills do you need to ride a bicycle?
- What forces are ‘at work’ on a bicycle?
- What senses are engaged when riding a bicycle? Describe the feelings.
- How do you maintain body temperature when riding?
- How can you keep safe on a bicycle?
- What causes our muscles to ache?

**Problem solving, reasoning and numeracy**
- Can you dismantle and reconstruct a bicycle? – just experiment…
- How many components are there?
- How many turns of the wheels covers 100m?
- If bicycles are so good why does everyone not use them?
- Are bikes environmentally friendly?
- What countries use bicycles the most? How many? Why?

**Knowledge and understanding of the world**
- Investigate a range of uses for bicycles in society – police, fire, war?
- How many different kinds of racing/sport are there on bicycles?
- What materials are bicycles made from?
- What are cycle paths, where are they in your area and why are they needed?
- Research what journeys have taken place on bicycles.
- What forces are ‘at work’ on a bicycle?
- How long would it take you to cycle from e.g. London to Dundee – investigate and plan the journey!

**Creative development**
- Design your ideal bicycle
- Create a poster for a cycling event for children.
- Create a game called the ‘Life Cycle’
- Explore the concepts of rhythm and cadence – cycle to music fast and slow – create a cycling dance, perform it.
- Research bicycles and art
- Create a bicycle sculpture from a material – paper mache to plastercine

**Communication, Language and literacy**
- Write a bicycle poem or short story of a journey.
- In how many languages can you find the word bicycle?
- Hand signals for safety what do they ‘say’ – act them out
- Read the Highway Code

**Personal, social and emotional development**
- What things might you discover, see and hear when cycling on your own, and with friends?
- How could you be a good Samaritan on/with a bicycle?
- Discuss risk and safety and what might be dangerous behaviour on a bicycle.
Appendix (10ii)

National Curriculum strand/themes: some ideas for curriculum planning
Bikeability at Key Stage 3 and 4 (cycling across subjects)

<table>
<thead>
<tr>
<th>English</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative writing: poetry or short story ‘a cycling adventure’: plots characters places and events. Compare journalistic reports to technical manuals.</td>
<td>Ratios and gearing, equations for speed, velocity and propulsion, cycling trips; distances, time mapping and route planning, angles and percentages.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science</th>
<th>Art and Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics, mechanical advantage, power and ‘work’, friction, energy, heat, balance, light/vision/lenses, pressure, sustainability/environment.</td>
<td>Bicycle sculpture, pictorial arts, clays, abstraction and new materials. Themes e.g. freedom, exploring, wear and tear, human strength, Highway Code.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Citizenship</th>
<th>Computing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re: cycling discuss: respect for others, rules (of the road), ethics and etiquette, rights, obligations, liability and responsibility, legal/illegal, culpability – rights and wrongs, dos and don’ts.</td>
<td>Design a computer game for cyclists, create a cycling graphic, Invent a cycling App, trip recording and GPS tracking.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Design and Technology</th>
<th>Geography</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design a push-bike for a family of 4. Make a cycle trailer. Materials and weight-saving. Production phases, design of bikes for unusual purposes.</td>
<td>Discuss the needs of people for cycling across towns, in the UK countryside and across a continent. Map a cycle route across America.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>History/heritage of the bicycle. Social impacts of the bicycle on different cultures – uses/roles in peacetime and war.</td>
<td>Cycling across Europe – what languages and what vocabulary would you need to get by?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Music</th>
<th>Physical Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle themed songs, cadence, rhythm, repetition, composing, electronic sampling, performing.</td>
<td>Research projects: racing, injury, bike design, energy/fitness tests exercise and health. Experience: mountain biking, track cycling, BMX, a cycling expedition, Bikeability training, become a cycling instructor.</td>
</tr>
</tbody>
</table>
JQRSS Author Profiles

Nicola Hamilton is 22 years old and recently graduated (in 2014) from the University of Central Lancashire with a first class honours degree; BA in Sports Development. An active Bikeability Instructor, she is currently employed by Go-Velo in the North West of England and has aspirations to develop her research at Masters level.

Clive Palmer is a Senior Lecturer in the School of Sport, Tourism and The Outdoors, University of Central Lancashire. His research interests include Sports Coaching and Physical Education, Student Centred Learning and Creative Pedagogies, Outdoor Education and Sports Philosophy.

Reviewers’ comments:

As a 3rd year Sports Coaching student, reading this article has helped immensely in the preparation of my own dissertation. The article has a clear structure and an informative series of appendices which map out the research activity of the researcher. The presentation is also individualised and innovative; it uses pictures, mind maps, data-extracts and creative headings related to cycling and even a poem to illustrate the new directions the research was taking as it developed, with the additional benefit of making it interesting to read - it was clear to see that the subject area was of great personal interest to the researcher. The variety of field observation techniques used to collect data, such as observations of cycling practice, interviews with parents and then questionnaires from children was something I discovered that I will take into my dissertation to help collect data for my research.

Learning to ride a bike is fused with a distinct passion for a subject area and a desire to explore what can be learned from cycling. The article combines a clear layout of research; abstract, introduction, literature review, discussion and conclusion but with a unique twist of personalised or subject specific language making it informative but also refreshing to read. The article provides a great example for me and others to consider as they embark upon their own research projects for the first time but also an inspiration by showing how passion regarding a subject can filter into my work and also lead to quality results.

After reading this dissertation paper it is immediately apparent that data is at the forefront of the study. The writers emphasise how the primary field data will be used to ‘tell the story’ and how the data will be integrated into the text. This is personally very helpful as it highlights the importance of the data collection and presentation process. Being able to see a former student’s work has also been useful for considering layout and approach to research. Having never seen a dissertation previously, it can be a daunting task; this paper really allows the reader to get a feel for what a dissertation entails and how it might look for example seeing how to manage appendices and how they relate to the main text. The measure of freedom...
and creativity that is evident in this paper is very interesting and shows how writing a dissertation can be a fun and enjoyable experience. Reading this paper also highlighted that the research conducted in dissertations can actually be useful. The author created her own concept from her findings where Bikeability could be potentially used to teach elements across all subjects in the National Curriculum. Overall the paper is very useful for a student who is currently writing a dissertation as it provides insights into some ways of conducting field research along with the evident enjoyment of writing it; a good educational outcome which I hope to experience.