RESEARCH INTO OUTDOOR EDUCATION LEARNER ATTRIBUTION THEORY:

The effects of the Duke of Edinburgh’s International Award on learning

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Preamble

There are three options that confront us when researching the effects of the Duke of Edinburgh’s international Award on learning:

1) That the overwhelmingly positive effects of the Award on the learner as reported in previous research (e.g. Campbell et al., 2009), and by the Duke of Edinburgh’s International Award organisation in terms of their impact statements, migrate through the transformation of the subject into, for example: increased life prospects, increased engagement at school and improved learning and social effects in general. This option will be called the total attribution option.

2) The effects of the Duke of Edinburgh’s International Award on the learning of the learner are a subtle and nuanced affair. This option takes into account the social/cultural backgrounds and context of the learner and the ways in which the learner may have been motivated in the first place, or have substantial support in and for their learning or otherwise. In terms of this option, the Duke of Edinburgh’s International Award plays a subsidiary but supportive role to the ways in which the learner progresses, and will be deemed to be the intermediary attribution option.

3) The effects of the Duke of Edinburgh’s International Award on the learner cannot be attributed. In fact, one could stipulate that there is a fallacy of attribution (Brookes, 2003) between completion or partial completion of the Award and learning or transference from the Award activities to learning in general. This option shall be called the non-attribution option.

This pilot project (conducted in 2015) constructed a learning attribution survey (Appendix II) and held follow up online interviews and focus groups in NSW, Australia (Appendix III). The following report analyses the three attribution options of the Duke of Edinburgh’s International Award on learning through a literature review, research methodology, results and conclusions structure.

The aim of this project is to understand where best the Award sits in terms of the attribution of learning and its effects, and what possible follow up research is required to further understand this field.

• Duke of Edinburgh’s International Award = DoEIA
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1. Executive Summary

1.1. Summary of Results

This study sought to answer three questions of pivotal importance to the Duke of Edinburgh’s International Award (DoEIA):

1) What is the learning attribution that the Award encourages?
2) Is this attribution measurable?
3) How do these attributions translate to learning effects?

In summary, this project found out that:

The learning attribution of the DoEIA according to this study is intermediary. This means that the specific ways in which the DoEIA works, for example, to encourage self-reliance, effort, service to the community and persistence can be attributed to the current set of activities that the Award runs. In particular, the study found that the qualities of:

1) Self-Confidence,
2) Cope with Change,
3) Leadership Ability,
4) Overall Effectiveness, and,
5) Active Involvement,

Can be attributed to the DoEIA, and this learning can be measured (see quantitative results sections below).

Further, the learning of the qualities of:

6) Time Efficiency,
7) Self-Efficacy,
8) Social Effectiveness,
9) Cooperative Teamwork,
10) Stress Management, and,
11) External LOC (Locus of Control)

Can also be attributed to the current set up of the DoEIA, but in a less compelling manner.

These qualities are ranked with the largest attribution being that of ‘Self-Confidence’, and the smallest that of ‘External LOC’ according to the ROPELOC survey used in this study (see methodology section).

*In short, this study shows how gains in these qualities as mentioned above 1-11 can be measured and attributed as being due to participation in the DoEIA.*

However, this study found that there were those who sided with the total attribution option and those who denied attribution, or expressed non-attribution. Further research is required to understand more fully how and why the tendencies to exaggerate and to negate the learning effects of the DoEIA are operant in the face of such a widespread and well known program. Further, the exact connection between the specific learning effects of the Award and the types of activities...
that the DoEIA runs was not clearly outlined or understood, due to the nature of this small scale pilot research, and the inability of the team to match survey and interview results.

The tendency to overstate the manner in which the gains that the DoEIA affords the individual and the group migrate to general learning gains was observed, as was the tendency to remain sceptical with respect to the cross over from specific skills learning to general learning improvement. It is recommended that further research is required to understand this aspect of the DoEIA learning attribution project.

1.2. Summary of Report

i. Attribution was chosen as the underlying theory of this research.

Attribution means when one ascribes a certain tendency or quality to something or someone. For example, when one observes a participant in the DoEIA trying really hard to complete a certain task, one might attribute the qualities of perseverance, determination or strong will-power to that person. Research in this area asks questions about exactly why, how, and what are the effects of such attribution on skill and youth development — both of which are of vital importance to the DoEIA. The most significant aspect of attribution theory for the DoEIA is that the way in which one communicates information about specific qualities and character development to participants, which will affect their behaviour, may change belief, and can alter the desired outcome of the activity.

ii. Attribution is especially pertinent in education, and to the learning that happens due to a certain educative activity.

The classic distinction that is opened up by attribution theory is between effort and ability. When praising someone for effort, an educator needs to be aware of the possible implications of this praise. For example, if a student performs badly in an examination, and the teacher says, “never mind, you tried really hard”, the student may well infer that they have a low ability, and that they could not have in fact done any better in the examination. If, on the other hand, the teacher says: “Oh no, that’s a really terrible result for you,” the student may well impute that they have a higher ability than is reflected in the test, and that they should do better next time. In terms of the DoEIA, leaders need to be aware that their feedback and verbal assessment of participants’ progress in the Award has a major impact on Award success.

iii. Outdoor Education or OE is still of major components of the DoEIA.

The application of attribution theory to the DoEIA, reveals that many of the over estimations and generalisations that happen when discussing the learning that happens because of the DoEIA are because of the impact of OE. There are several reasons for this loss of perspective when assessing the claims of OE. One of which is the use of the term ‘adventure’ when ascribing the effects of OE, which can over inflate and eschew the learning that happens due to the experience of OE. Other reasons for the loss in accuracy of learning attribution with respect to OE; is the potential culturally embedded romanticism associated with nature, how OE exactly does relate to nature, the specific ecologies and environmentalism related to place, and the facts of modern life, which are often viewed from the safe, narrow and protected perspective of being indoors. Research shows that OE does have
beneficial effects on the individual, yet these benefits, when viewed from the perspective of attribution theory may be made more accurate with respect to what specifically happens when one is immersed in OE, i.e. improving in and adapting to the rigours of outside mobility.

iv. **Previous research into the effects of the DoEIA has produced almost uniformly positive results.** This is due to methodological and theoretical decisions on the part of the researchers, which this report tries to improve upon. In order to enable a more balanced, scientific and accurate assessment of the DoEIA, the team applied a mixed methods research design and an attribution approach to learning.

v. **This project found that the following qualities were attributed the most strongly by participants in the DoEIA:**

1. Self-Confidence,
2. Cope with Change,
3. Leadership Ability,
4. Overall Effectiveness, and,
5. Active Involvement,

This means that these qualities are the most compelling effects of the DoEIA as assessed by participants in the DoEIA. Of weaker attribution by participants were the qualities of:

6. Time Efficiency,
7. Self-Efficacy,
8. Social Effectiveness,
9. Cooperative Teamwork,
10. Stress Management, and,
11. External LOC (Locus of Control).

vi. **More research is required in this area to confirm these results or otherwise.**

*This preliminary study suggests that the DoEIA is most effective in improving the qualities as listed 1-11 (1 being the strongest) above.* This does not mean that the DoEIA has a necessarily weaker role in, for example, the development of ‘cooperative teamwork’, but, that these participants may well attribute this learning to other aspects of their lives such as participation is sports activities.

vii. **This research project found that there are Award participants and leaders that ‘over’ attribute learning to the DoEIA.**

This resolves itself into the statement of a number of inter-related, positive benefits to Award participation (expressed as growth), and all connected to long term enhanced learning capacity. Likewise, there are Award participants and leaders who doubt the very connection between enhanced learning and Award participation (approx. 17% of the qualitative sample, or 1 in 6).

The truth of what happens due to participation in the DoEIA lies somewhere in-between, with the particulars of the current DoEIA set up, acting on learning in specific ways (through the four different but related elements of the DoEIA, and the progressive nature of the three Award levels).
2. Literature Review

2.1. Introduction

This literature review critically examined literature around attribution theory, outdoor education as a major component of the DoEIA, and previous research that has specifically looked at the effects of the Award. Whilst this literature review is not and cannot be exhaustive in this pilot study, the major themes that constitute the research field will be identified. This will enable an understanding of how attribution theory works in the context of the DoEIA. The picture of exactly how attribution theory works is complicated somewhat by the various non-formal strands of the Award, i.e.: 1) Service, 2) Skills, 3) Physical Recreation, and, 4) Adventurous Journey (recognising that at Gold level there is also a Residential Project requirement). However, for the purposes of this study, the direct question of learning transference and the consequent youth development for the young people taking the Award (14-25 years old) will be assessed. Firstly, the manner in which this transference happens, and what we understand by learning attribution theory shall be considered.

2.2. Attribution Theory

Attribution theory addresses questions of fundamental importance for the DoEIA i.e.: Are learning(s) attributable to the Award, and if so, are they measurable, and do these learnings translate to definite learning effects (e.g. increased resilience across the board), which is of lasting importance to the learner beyond Award completion? By definition: “attribution theory deals with how the social perceiver uses information to arrive at causal explanations for events. It examines what information is gathered, and how it is combined to form a causal judgment” (Fiske, & Taylor, 1991, p.2). Attribution theory deals with how and why agents explain events in the ways that they do. Heider (1958) believed that subjects are in effect ‘naive psychologists’, who are trying to make sense of the world that surrounds and engulfs them, especially with respect to social relations. Importantly with respect to trying to understand the types of learning that happens due to the DoEIA: agents often attribute cause and effect relationships, even where there may be none. As a result, Heider (1958) didn’t so much develop an attribution theory himself as emphasize certain themes that have been explored latterly, such as ‘causal’ attribution. There were two basic attribution ideas that have been explored latterly, such as ‘causal’ attribution. There were two basic attribution ideas that Heider (1958) put forward that are useful to this study.

1. Internal Attribution (IA): This defines the process of assigning the cause of behaviour to some internal characteristic, rather than to outside forces. For example, when one explains the behaviour of others, one postulates enduring internal attributions, such as definite personality traits, e.g. persistence, bravery or resilience. Consequently, one attributes the behaviour of someone to their personality, motives or beliefs. Attribution of learning due to the DoEIA would therefore be assignable internally as ‘character development’.

2. External Attribution (EA): In contrast to IA, external attribution is the process of assigning the cause of behaviour to a situation or event outside the agent’s direct control, and not to an internal characteristic or enduring personality trait. External attribution involves trying to
explain behaviour by making external attributions, such as situational or environment features of/in the learning. In terms of the DoEIA, the EA learning involved might emphasise the impact of taking the agent away from bounded, formal classroom situations.

2.2.1. Correspondent Inference Theory

Attribution theory has developed and expanded as psychologists have looked more deeply into the explanations of causality in behaviour. For example, Jones and Davis (1965) considered that agents pay ‘special’ or explanatory attention to intentional behaviour in contrast to accidental or unthinking behaviours. In contrast, as Vaughan and Hogg (2013) point out, this picture is complicated by the fact that careless behaviour is unintentional, but often leads us to conclude that the individual concerned is a careless person. Jones and Davis’ (1965) theory particularly helps us to comprehend the process of making an internal attribution, even in these circumstances. This is because Jones and Davis (1965) hypothesised that agents tend to see a correspondence between motive and behaviour. For example, when we see someone trying their best to complete the DoEIA, we correspondingly consider them to be a persistent and hard-working type of resilient individual. As a result, dispositional or internal attributions provide us with information due to correspondence from which we can make predictions about a person’s future behaviour, according to this theory.

In effect, the correspondent inference theory describes the conditions under which we make dispositional attributes to behaviour, and that one consequently perceives as being intentional (even if they are careless). Jones and Davis (1965) used the term ‘correspondent inference’ to refer to an occasion when an observer infers that an agent’s behaviour matches or corresponds with their personality. Jones and Davis (1965) hypothesised that one draws on five sources of information when one makes correspondences:

1. **Choice**: If one observes behaviour to be freely chosen, one believes it to be due to dispositional or internal factors.

2. **Accidental vs. Intentional Behaviour**: Behaviour that is deemed intentional is likely to be attributed to the agent’s personality or caused internally, and behaviour which is accidental is likely to be attributed to external causes (Jones and Davis, 1965; Marken, 1982).

3. **Social Desirability**: Behaviours that are said to be low in sociably desirability, i.e. they are non-conformist, lead one to make dispositional or internal inferences with respect to these behaviours. For example, if an agent is said to be unwilling to complete the DoEIA that might lead to a negative judgement about his/her character.

4. **Hedonistic Relevance**: If another agent’s behaviour appears to be directly intended to benefit or harm us, we attribute increased attribution to that behaviour. This aspect of attribution theory could be said to relate to completion of the service aspect of the Award.
5. **Personalise:** If a different agent seems to be aiming to have an impact on us, one infers that it is ‘personal’, and not, for example, a contingent feature of the life circumstances that we both find ourselves in (Juarrero, 2000).

### 2.2.2. Variation Model

Further to correspondent inference theory, Kelley’s (1967) variation model is perhaps the best known attribution theory (Vaughan & Hogg, 2013) and directly relevant to assessing the learning effects of the DoEIA. Kelley developed a logical model for assessing whether or not a particular action could be attributed to an internal characteristic of the agent (IA) or to external environmental causes (EA). The term variation in Kelley’s (1967) model suggests that the agent has information from different observations, from multiple perspectives, and can therefore perceive the variations between an observed effect and its causes. Kelley (1967) argued that in trying to discover the causes of and for behaviour, agents are able to act rationally and logically, in a similar manner to scientists. More specifically, the variation model from Kelley implies that the attribution of causes to behaviour takes into account three kinds of systematic evidence which ultimately influence judgement:

1) **Consensus:** this aspect of attribution suggests that the extent to which other individuals behave in the same way in a similar context. Consensus could be a strong basis for understanding why the DoEIA learning attributes are often deemed to be overwhelmingly positive (the total attribution option).

2) **Distinctiveness:** the extent to which the agent behaves in the same way in similar contexts. This mode of evidence links the claimed learning gains of the DoEIA specifically to the makeup of the Award.

3) **Consistency:** the extent to which the agent behaves in a certain way every time the context occurs. This aspect of attribution encourages the types of behaviours engendered by the Award to be understood in and by the conditions for learning that the Award encourages, e.g. in Outdoors Education (see below).

Kelley’s variation model (1967) suggests the agents attribute causality on the basis of correlation between [consensus-distinctiveness-consistency]. However, a problem for such correlation is: How do we know when or if one has enough information to make that kind of judgment? In the context of this study, how can we attribute or correlate the types of learnings that are said to be because of the DoEIA to the DoEIA?

According to Kelley (1967), in this situation, one falls back on past experience, and looks for either:

1) **Multiple necessary causes.** For example, one might attribute the success of the DoEIA to a variety of interwoven multiple factors in the learning of the agent, and not make a singular causal ascription.

2) **Multiple sufficient causes.** Suggests that one factor in the learning of the agent might be sufficient to work to the benefit of the agent and propel them to success through the DoEIA activities, for example, resilience, persistence, determination.
In sum, Kelley & Michela (1980) in Vaughan & Hogg (2013) have figured attribution theory to be about the antecedents, attributions and consequences (Figure 1) of behaviour. The antecedents include information (about the behaviours and agent), beliefs and motivation, the attributions are about the perceived causes for behaviour, and the consequences include the actual behaviours, affect and expectancy. This model expands upon the classic attribution theories to deliver an understanding of multiple distinct causes for unintentional behaviours, helps to define enabling factors for intentional behaviours, and, works within modes, for example, as belief vs. desire/reasons for behaviours.

Figure 1. General Model of the attribution field (Kelley & Michela, 1980, p. 459)
2.2.3. Attribution Theory in Education

The attribution theories of Kelley (1967), Jones and Davis (1965) and Heider (1958) have been added to and embellished since that time, especially by Weiner (1985; 1995) who has attended to attribution theory to understand motivation, and has included enhanced personality tracking through attribution, in, Vaughan & Hogg (2013). Attribution theory has particularly helped in the analysis of education, and in the attribution of educational effects such as gains in learning, and how they are affected by teaching styles. For example, it has been found that teachers tend to self-praise when their students have been working positively, and they make ego-enhancing attributions, but conversely, they can propound blame on students when they are doing badly, and consequently make ‘ego-defensive’ attributions (Graham & Juvonen, 1998). One could say that by blaming student failure on external causes (EA), such as negative home and social/cultural environments, teachers can ‘save face’ and protect their self-images. Interestingly, successful teachers tend to perceive student learning problems and negative behaviours as fleeting, and thus are amenable to being changed. When teachers see student learning difficulties as being able to be circumvented through and by their pedagogy, the expectation for future student improvement is increased and teacher persistence is improved (Graham, 1991). As a consequence, it has been suggested that teachers’ attributions should be evaluated as part of the teacher selection process.

In addition, the ‘dimension of controllability’ in attribution has been shown to correlate with certain teacher affects and behaviour intentions (Seligman, 1990). Controllability especially relates to understanding the educational attribution between effort and ability. This division in learning attainment plays out according to attribution theory, because teachers are most likely to warm to students when positive results are seen as a result of effort, which is a ‘controllable cause’, whereas teachers demonstrate negative emotions such as derision and rejection, when student failure is perceived as coming from a lack of effort (and not ability). In sum, it has been found that teachers are less likely to aid the pupils when the instructor thinks that the reason for the low level of achievement is controllable by the cohort and more likely to help them if it is not controllable (Gordon & Graham, 2006). Furthermore, teachers’ affects and their consequent messages have been proved to act as ‘ability cues’ to students (Ibid.). For example, if the instructor expresses sympathy to a student who performs badly on an exam, the learner is more likely to impute that the adult believes them to have a weak ability, but if the teacher articulates outrage to the same student, the pupil will more likely attribute a high-ability message to themselves (i.e. “I could have done better if I had tried harder”).

In terms of the non-formal education of the DoEIA, clearly the role of the voluntary instructors who organise the running of the DoEIA would and do have similar attribution effects. However, these effects may well be mitigated and transformed by the changed non-formal circumstances of the DoEIA; i.e. the pedagogic context as being removed from the classroom. The next section of this literature review will explore this change in attribution that is constituted by and through the DoEIA, and ties in attribution theory to one of the principal elements of the DoEIA, Outdoor Education.
2.3. Outdoor Education (OE)

Whilst it is understood that the DoEIA is not only constituted by Outdoor Education (OE), it is universally recognised as being one of its signature aspects (e.g., Bailey, 2003; Beames, Higgins, & Nicol, 2012; Campbell et al., 2009; Gray, 1997; Keighley, 1998; Nichol, 2002; Rae, 2008). The learning attribution that can be made to and because of the OE aspect of the DoEIA is therefore crucial to understanding many of the drivers and motivations for doing the DoEIA, and what causal learning attributions can be made to the DoEIA in the minds of its participants and Award leaders. However, two problems face the researcher and analyst in terms of understanding and articulating the learning attributions of OE in the context of the DoEIA:

1) The romanticism of nature. Contact in and with nature is often spoken about in wholly romantic terms, making the truth of what happens in programs such as the DoEIA and OE often difficult to fathom (e.g., North, 2015).

2) The commercialisation of OE. adventure-style holidays are big business, which can lead to over-claiming and distortion in terms of what happens due to Outdoor Education.

Concomitantly, the large amount of research and interest in the specific effects of OE is testament to the ways in which the over-riding consensus and attribution of OE is: “Outdoor Education is good for you”. In this context, the classic definition of Outdoor Education is (Priest, 1986, p. 3):

An experiential process of learning by doing, which takes place primarily through exposure to the ‘out-of-doors’. In Outdoor Education the emphasis for the subject of learning is placed on relationships, relationships concerning people and in natural resources.

This definition would seem to speak to the ways in which attribution theory works in the context of the DoEIA, because the learning process of OE according to this definition focuses on developing meaningful and valued relationships between attributes of the self, other and nature. Further, Neill (2008) in his PhD on the effects of Outdoor Education, has represented the purposes/outcomes of OE in terms of: Recreation, Physical – Educational – Developmental - Therapeutic, Redirectional and Environmental (Table 2). Interestingly, according to this categorisation, and a meta study by Hattie et al. (1997), the most attended-to effect of Outdoor Education is the measurement of Developmental outcomes (76% of measured effects), followed by Therapeutic (12%), Physical/Recreational (6%), Educational (5%), and Environmental (1%) effects. Such analysis points to the focus on personal and social developmental effects in the context of Outdoor Education programs, a theme that is supported by theorists such as (White & Hendee, 2000). In terms of attribution theory, the consistent message of developmental or ‘growth’ phenomena in previous studies and in measures of Outdoor Education, is due to the intuition that most participants have had in terms of what they have got out of OE: i.e. some kind of ‘personal growth experience’. Such experiences are notoriously difficult to define, yet with the aid of attribution theory, this study will try to understand what this growth experience means for the DoEIA program in the next two sections (2.3.1 & 2.3.2).
Table 1. Classifications of major Purposes and Expected Outcomes of Outdoor Education (Neill, 2008, p. 7)

<table>
<thead>
<tr>
<th>Purposes / Expected outcomes</th>
<th>Description</th>
<th>Abbott</th>
<th>Ewert</th>
<th>Priest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreational, Physical</td>
<td>Leisure (fun, relaxation, enjoyment), Physical fitness, Outdoor skills training</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational</td>
<td>Direct (subject knowledge) and indirect (e.g., Academic self-concept)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental</td>
<td>Personal and social development, life skills and functionality of behaviour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Therapeutic, Redirectional</td>
<td>Improve dysfunctional personal and group behaviour patterns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>Environmental attitude, knowledge, and behaviour</td>
<td></td>
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<td></td>
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</table>


2.3.1. Claims to exceptionalism – ‘Adventure’ in the Outdoors

Exceptionalism is a term usually associated with American capitalism that can be said to be ‘exceptional’ (Tyrrell, 1991) in terms of the history of the growth of world economies, democracy, etc. In a parallel manner, human consciousness has been deemed to be ‘exceptional’ in terms of its self-reflexivity, ability to deal with complex problems, and, indeed, the propensity to think deeply about a range of subjects (e.g., Gane, 1996). In the context of this study, the use of the term ‘exceptionalism’ could help to explain how the personal growth aspect that OE is said to encourage has been attributed to OE, and results in various internally attributed characteristics such as the entwined but uni-directional ‘growths’ in resilience, persistence, motivation, optimism and positivity. Importantly, it could be directly stated that the type of growth phenomenon that OE has been proved to foster through numerous previous investigations (Hattie et al., 1997) is itself a mode of exceptionalism, in that it encourages a feedback loop from the experience of OE to the learning of the subject: i.e. this exceptionalism depends upon ‘experiential, reflective learning’ (Kolb, 2014).

In terms of attribution theory, the experiential learning that OE encourages resolves itself as exceptionalism due to the ascription of being ‘apart’ from or ‘separate to’ the humdrum, every day, frequently monotonous inwardly directed routines contained, for example, in formal educative contexts, or even in the usual lives of the participants. Further, the exceptionalism that the experience, feedback and research into OE has fostered in terms of learning has been significantly augmented due to the attribution of ‘adventure’ in terms of what OE is and what it means for the participants (Dickson, Gray, & Mann, 2008; Gray & Martin, 2012). The ascription of adventure to OE connotes danger, risk, an exploration of the unknown, and an exciting and new experience that the learner typically remembers. However, the attribution of ‘adventure’ to OE and the desired, connected outcome of experiential learning assumes that:

- OE is a new adventure for the learner, which may not be the case for rural participants, who typically live most of the time outdoors
The agent desires adventure, or that adventure is a wanted part of their lives, as it is lacking in some way from their everyday routines. There is a cultural and historic aspect to the ascription of adventure to OE. This ascription is derived in large part from 19th century ideas about what adventure was, and these ideas may be dominated by white, male, western, colonial notions (e.g. Sinha, 1995) that may exclude or make invisible less dominant and other modes of thought. For example, Aboriginal Australians may well have a completely different notion of adventure that OE as currently practiced does not accommodate.

In sum, analysis of the attribution of effects to OE reveals the ways in which it has become a form of ‘experiential exceptionalism’. This is in part due to the close association between OE and adventure in the minds of many, but this association does not negate the numerous positive effects and proven gains that OE has had on the learner (Gray & Martin, 2012; Neill, 2008). In fact, the association between OE and adventure explains the ways in which these effects are frequently bundled together, and have become bridled under the rubric of ‘personal growth’, which is an internal attribution and mode of exceptionalism. Interestingly, the ideology of the origins of OE in the 20th century can be figured in and by the Outward Bound movement, which is wholly connected to the DoEIA through the work of Kurt Hahn and the Outward Bound Process Model (Walsh & Golins, 1976) which requires:

1. A motivated and ready learner, who is placed into
2. prescribed physical and social environments, then given a
3. characteristic set of problem-solving tasks (outdoors) which creates a state of
4. adaptive dissonance leading to
5. mastery or competence, which in turn leads to
6. reorganization of the meaning and direction of the experience. In this way, the learner continues to be
7. oriented toward living and learning.

This model creates the conditions for ‘adventure’, which as has been argued is the attribute which largely augments the effects of OE through the personal growth mindset, experiential learning and hence creates a mode of exceptionalism.

2.3.2. The urban/rural divide – myth making in the Outdoors

On a larger scale than the specific mode of individual exceptionalism that OE encourages through experiential learning, feedback and the growth mentality, and parallel to the expansion of OE, urbanisation is happening worldwide at an accelerated speed. Approximately 55% of the world’s human population currently lives in urban areas and this is projected to rise to 66% by 2050 (UN, 2014). In developed countries, presently 75% of the population live in urbanised areas, and this is predicted to rise to 85% by 2030 according to the United Nations Human Settlements Program. In Australia, 87% of the population now live in urban settings (Australian Bureau of Statistics, 2006). Furthermore, urbanised humans in developed countries are estimated to spend approximately 90%
of their time indoors. In this context, the experience of OE is more than ‘exceptionalism’, it is a form of potential myth making. Again, this does not diminish the scientific nature of the evidence that has shown the gains in resilience, determination, teamwork and self-efficiency that OE affords (e.g. Neill, 2008; Maynard, Waters & Clement, 2013), but underlines the ways in which for a largely indoors bound population, contact with and positive activity in the Outdoors is becoming a progressively unsurmountable cognitive leap, one where the imagination must intercede. One could argue that contemporary educational practises, for example, the use of mobile devices such as iPads in pre-school education (Dezuanni et al., 2015), have only exacerbated the ways in which young people are conditioned away from the difficulties and adventure of nature, and away from the modes of ‘adaptive dissonance’ that Outward Bound and the DoEIA encourages. In developed countries such as Australia, children are increasingly educated in enclosed, screen-based environments, where one could argue that every risk has been scrupulously calculated and diminished in advance for them, leading to a sense of electronically mediated safety and possible learned helplessness with respect to practical (unmediated) problem solving in the ‘real world’. Certainly, there are schools which have invested in bringing back elements of risk and real life problem solving back into their environments (Jones et al., 1997), however, these schools and instances of real life learning are exceptions to contemporary educational practice and not the present day rule.

The myth making aspect of the attribution of effects to OE indicates two factors that are relevant to this analysis of DoEIA and OE:

1) The significance of ‘place’ in OE and what this means for the learner (Wattchow & Brown, 2011) is often overlooked, generalised or bundled together as the ‘outside’, ‘wilderness’ or ‘nature’ therefore diminishing the connection with any real parcels of land and their ecologies as such.

2) OE has in many ways now become highly constructed and is now a ‘humanised’ space. Perhaps at its inception, Kurt Hahn’s initial forays into the Welsh countryside were truly transformatory for his trainee sailors (see Gray, 1997; Rohrs, 1970), yet now the high interest in OE and its attributes has in many ways led to its over exploitation and possible domestication.

Myth making as such is not a bad thing, it is in many ways an essential human preoccupation that some have argued underpins consciousness and development (e.g., Feinstein, 1997) and is a highly imaginative activity. However, in terms of the attribution of effects to OE, it can be detrimental to critical and affective understandings of place and the specific learnings that OE encourages. Learning can in many ways be place-based, situational and it is certainly multiple dimensional: e.g. spatial, time-based, cultural, historical, mathematical, linguistic, artistic and gestural (Stafford, 2011). In contrast, the wholesale placement of experiential models of learning on OE, such as the popular and highly influential Kolb’s (2014) model of experiential learning, diminishes the possibilities of place and other forms of knowing and understanding being relevant in this context. Hence, the tendency to myth making in the Outdoors, as a mode of explanation about vague, non-situational, relatively non-dimensional developmental phenomena (i.e. growth), and which is another factor in the consideration of attribution of effects to OE. In sum, the myth making about
the Outdoors in the urbanised present, can hide the subtle and often unexpected ways in which an agent could learn outdoors.

2.3.3. Time and the Outdoors

Lastly, in this brief critical literature review on the effects of OE on learning, presented through the lens of attribution theory, the question of time will be raised. In this context, the dimension of time opens up two research-based problematics:

1. How long does it take with respect to the agent’s immersion in nature or OE to produce the desired attributes and consequent growth mindset? Does the length of time that it takes for OE to work also depend on the developmental readiness of the participant?
2. Is time itself changed during/due to the OE experience? If so, does this suggest a sense of time outside/beyond the contemporary indoors situation, which it could be argued is dominated by screens/television and other time-mediating devices?

Interestingly, Walsh and Golins (1976) specify a nominal time frame of 23 days for the Outward Bound Process Model to work, though few other studies specify any time frame for the listed attributes of OE to take effect. In the specific terms of addressing the two questions for time attribution of OE, it is perhaps Neill’s (2008, p. 43) seven element model that comes closest to explaining the temporal dimension of OE:

1. \textit{l. Individual}: each individual has a unique history and individual differences; may contain elements such as one’s fitness, ethnicity, self-concept, outdoor skill, and so on:
2. \textit{E. Environment}: the physical setting, usually relatively natural; may contain elements such as weather, terrain, flora, and fauna;
3. \textit{A. Activity}: the set of situationally-contingent tasks, activities, and problems to be solved;
4. \textit{P. Program}: the program philosophy and values, manifest in choices about every aspect of program design and style;
5. \textit{G. Group}: the unfolding group psychodynamic;
6. \textit{F. Facilitator}: the facilitator’s in situ presence, acting towards, and reacting to, elements in the system;
7. \textit{C. The cultural context which provides a social fabric into which elements from other domains are richly embedded.
In effect, according to this model, the temporal dimension is active constantly, as the 7 elements run through the context which is being researched (i.e. the individual participating in OE). Furthermore, these elements will influence the attribution of effects to OE in ‘waves’ (Rawson, 1991), which correspond to the difference between doing of the OE itself, and the consequent feedback or debrief time, where participants reflect on what has happened to them due to OE. In the next section, this literature review will examine specific research that has looked at the DoEIA and how effects have been attributed to it.

2.4. The Duke of Edinburgh’s International Award (DoEIA)

The Duke of Edinburgh’s International Award is mentioned in a plethora of publications. A library catalogue search on March the 21st, 2016 in Western Sydney University’s library yielded 4,094 resources that contained the phrase ‘Duke of Edinburgh’s Award’ and 1,187 scholarly articles. However, complete, research-based studies, which have focused only on the attribution of learning effects of the Award are quite rare. This is because:

1) The five different elements of the Award are difficult to disentangle and treat separately in terms of specific research goals. For example, the physical recreation and adventurous journey aspects of the Award can be easily mixed up in terms of the attributes they encourage.

2) The element of OE in the DoEIA can dominate the others in the minds of participants, especially when figured in terms of ‘adventure’, as has been explored above. In these terms, the attribution of learning effects to the DoEIA is reduced to what happens only or principally due to the adventurous OE aspect and therefore excludes or diminishes the impacts of the others.

3) The Award is now so widespread and prevalent worldwide that specific research into the attribution of its effects are easily mixed up with the numerous youth development programs that attempt to organize similar/parallel activities (e.g. those organised by the
However, specific studies into the learning attributed to the effects of the DoEIA have found that:

- In Australia, Bailey (2003) found that learning was particularly enhanced through the expedition aspect of the Award, where real life problems could be simulated to create meaningful experiences for participants and to encourage thorough feedback sessions.

- In Ireland, MacMahon & O’Reilly (2015) found that the DoEIA, which is called ‘Gaisce—The President’s Award programme’, provides substantial support and opportunities for the growth and mental well-being that are afforded to young people during the critical period of adolescence, which helps them to build their psychological attributes and positive personal strengths: i.e., self-efficacy, hope, happiness, self-esteem, and psychological well-being (positive psychology). This study confirms that ‘Gaisce’ meets the criteria necessary to be termed a “Positive Youth Development programme, and acts as a catalyst in the enhancement of psychological attributes in its participants” (p. 47).

- In the UK, perhaps the most complete study of the DoEIA (Campbell et al., 2009) similarly found that the Award contributes positive learning attribution in the areas of:

  1. Attitudes towards new experiences
  2. Personal development
  3. Community engagement
  4. Physical and mental well-being
  5. Employment skills and prospects
  6. Engagement with DoE Leaders

Furthermore, the study found that the DoEIA encourages young people to manage their own programs of learning, therefore helping them to become successful learners in general. In other words, this study agrees with the Irish study, in the terms of this study, to favour the total attribution option. Quantitative and qualitative evidence from this study suggests that the three levels of the DoEIA make up a successful youth development program, especially favouring vulnerable and ‘in-need’ youth (Campbell et al., 2009).

In short, these and other studies into the specific learning attributions of the DoEIA (e.g., Collie, 2014) have helped the Duke of Edinburgh’s International Award Organisation to expand the learning attribution of the Award as seen below:
Table 2. The Outcomes Framework for The Duke of Edinburgh’s International Award (left hand column) mapped against the 9 impacts along the top row (orange sections not completed): (De-Wint et al., 2014, p. 13)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Educational attainment</th>
<th>Employability</th>
<th>Improved Health &amp; Well-being</th>
<th>Participation in civic life</th>
<th>Social inclusion</th>
<th>The Environment</th>
<th>Gender equality</th>
<th>Conflict resolution</th>
<th>Reduced Re-offending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managing feelings</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resilience &amp; Determination</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Relationships &amp; Leadership</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Creativity &amp; Adaptability</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning &amp; Problem Solving</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civic competence</td>
<td>√</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
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<tr>
<td>Intercultural competence</td>
<td>√</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Personal and social wellbeing</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Communication</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
</tr>
</tbody>
</table>

2.5. Summary

Attribution theory has a rich psychological history, which opens up a new approach to understanding how the DoEIA works. In the context of studying the DoEIA, the application of attribution theory provokes and asks questions about how and why we attribute learning to certain situations and their consequences. Outdoors Education (OE) has a strong evidence base for improving the lives of young people in terms of resilience, effectiveness, decision-making and team working, and, as arguably the heart of the DoEIA, still plays a pivotal role in enabling many of the positive attributes that have been associated with the DoEIA. However, OE can make other perhaps more subtle attributions or any negative attributions to/of the Award less apparent, and models of how learning happens outdoors, i.e. only learning through outdoors challenge, experience and feedback, can be unhelpful in terms of improving the subtlety of/in assessing and understanding the specific learning attributes that are encouraged by the Award. Previous research into the Award has taken the relatively straightforward research path of asking participants (qualitative component) about their experiences on the Award, and completing psychometric questionnaires (quantitative component) that ask participants to score various items about the Award that may, for example relate to changes in self-confidence (often accompanied by control groups who do not do the Award), and therefore performing mixed-methods studies. Such research projects have largely resulted in agreeing with the total attribution option as mentioned above, with attribution being merged with the general nature of encouragement in the Award, or in the focus on ‘effort’ in the
various elements of the Award (a classic attribution quality). In contrast, this small pilot study will inquire into the actual process of attribution that the Award encourages, as detailed methodologically in the next section.
3. Methodology

3.1. Introduction

This section will discuss the methods used to obtain and analyse the data for the present attribution study. In the first instance, this pilot study obtained full ethics approval from the Western Sydney University ethics committee to carry out the study. Once the study was approved, the research team used their existing DoEIA networks in NSW to recruit participants in the two stages of the research. All participants in this study who gave active consent to take part in the research were provided with information and consent sheets about the study. Active consent to participate was sought from parents of any child under 16. All names of schools and individuals have been de-identified in this report according to the ethics approval. In the first stage, participants were asked to complete the adapted ROPELOC attribution instrument (Appendix II) and demographic survey section via online survey using Qualtrics. In the second stage, qualitative research questions were posed by email to Award leaders and taken to Award participant focus groups. The quantitative and qualitative research methods for the study will be discussed below in sections 3.2.-3.5.

3.2. The quantitative measure

In order to research the learning attribution of the DoEIA, a sequential mixed-methods research design (Creswell, 2013) was deployed. Many consider mixed-methods educational research to be the most complete and best way to answer complex questions that involve changes in student learning or attribution, as it simultaneously encourages evidence for changes in student learning from an objective (quantitative) and subjective (qualitative) perspective (ibid.). The research design of the project involved in the first place adapting the Review of Personal Effectiveness with Locus of Control (ROPELOC) instrument (Richards, Ellis & Neill, 2002; see Appendix I) into an instrument which allowed respondents to provide an attribution estimate of the contribution of DoEIA to the development of their personal effectiveness skills (see Appendix II). For the purposes of this project, life effectiveness is said to be underpinned by variations in learning. The ROPELOC has 14 scales; including personal abilities and beliefs (Self-Confidence, Self-Efficacy, Stress Management, Open Thinking), social abilities (Social Effectiveness, Cooperative Teamwork, Leadership Ability), organisational skills (Time Management, Quality Seeking, Coping with Change) an ‘energy’ scale called ‘Active Involvement’ and a measure of overall effectiveness in all aspects of life. The two ‘Locus of Control’ scales measure the tendency to take responsibility for self-actions and successes. Table 3 below, describes the 14 scales that the ROPELOC measures, the number of items per scale and the reliability (alpha), which has been calculated from the present DoEIA sample (see section 3.3.).
Table 3. Scale reliabilities for Adapted Review of Personal Effectiveness (with Locus of Control) ROPELOC.

<table>
<thead>
<tr>
<th>ROPELOC Scale</th>
<th>Scale Description</th>
<th>No. Items</th>
<th>Reliability (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative Teamwork</td>
<td>Cooperation in team situations Ability to handle things and find solutions in difficult situations</td>
<td>3</td>
<td>.83</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>Ability to handle things and find solutions in difficult situations</td>
<td>3</td>
<td>.82</td>
</tr>
<tr>
<td>Leadership Ability</td>
<td>Leadership capability Taking internal responsibility for actions and success Accepting that external issues control or determine success</td>
<td>3</td>
<td>.90</td>
</tr>
<tr>
<td>Internal LOC</td>
<td>Taking internal responsibility for actions and success</td>
<td>3</td>
<td>.55</td>
</tr>
<tr>
<td>External LOC</td>
<td>Accepting that external issues control or determine success</td>
<td>3</td>
<td>.50</td>
</tr>
<tr>
<td>Active Involvement</td>
<td>Use action and energy to make things happen</td>
<td>3</td>
<td>.83</td>
</tr>
<tr>
<td>Quality Seeking</td>
<td>Put effort into achieving the best possible results</td>
<td>3</td>
<td>.80</td>
</tr>
<tr>
<td>Self-Confidence</td>
<td>Confidence and belief in personal ability to be successful Competence and effectiveness in communicating and operating in social situations</td>
<td>3</td>
<td>.85</td>
</tr>
<tr>
<td>Social Effectiveness</td>
<td>Competence and effectiveness in communicating and operating in social situations</td>
<td>3</td>
<td>.88</td>
</tr>
<tr>
<td>Stress Management</td>
<td>Self-control and calmness in stressful situations Efficient planning and utilization of time</td>
<td>3</td>
<td>.85</td>
</tr>
<tr>
<td>Time Efficiency</td>
<td>Efficient planning and utilization of time</td>
<td>3</td>
<td>.89</td>
</tr>
<tr>
<td>Cope with Change</td>
<td>The ability to cope with change Openness and adaptability in thinking and ideas. The overall effectiveness of a person in all aspects of life</td>
<td>3</td>
<td>.85</td>
</tr>
<tr>
<td>Open Thinking</td>
<td></td>
<td>3</td>
<td>.58</td>
</tr>
<tr>
<td>Overall Effectiveness</td>
<td></td>
<td>3</td>
<td>.86</td>
</tr>
</tbody>
</table>

ROPELOC Scale description with reliabilities (Cronbach’s alpha) with current sample.

The reliability of a measure refers to the consistency or lack of error of measurement. That is the extent to which the items are measuring the same underlying attribute. The traditional method of
estimating the internal consistency reliability of a measure is Cronbach’s alpha, ‘α’ (Judd et al., 1991; Cronbach, 2004). Alpha can range from 0 to 1, with 0 being complete unreliability and 1 meaning complete reliability (i.e., no random error). Although there is no universal consensus about what is an acceptable level of reliability, internal consistency reliability should preferably be above .70 or .80 (Anastasi & Urbina, 1997). From Table 3, it can be seen that the modified ROPELOC achieved excellent reliability for 11 of the areas it measures. Lower reliabilities were achieved in 3 other areas (internal and external locus of control & Open Thinking). These results indicate that overall the adapted ROPELOC is a reliable measure of personal effectiveness in the participants of this study.

The adapted ROPELOC instrument (Appendix II) was sent out to DoEIA participants with full university ethics approval. The attribution and demographic items were hosted online by the Qualtrics survey software package. The instrument was live from November 2014-November 2015 (12 months) during which time, 51 complete responses were collected. Specific quantitative sample details appear below in section 3.3.

Following the collection of the online surveys, the data was screened for errors and for uncompleted surveys. There were a total of 70 attempts to complete the survey, 51 of these were able to be used for the present analysis. The omitted surveys were incomplete or did not have sufficient information to be included in the analysis.

3.3. Demographic Characteristics of Participants

Final participants in the survey data set consisted of 51 students. The great majority of respondents were female (n = 43; 84%) with an average age of 16 years (range from 14 to 25 years, SD of 2.8 years). Three (5.9%) of the participants identified themselves as Aboriginal and/or Torres Strait Islander. The majority of the participants were born in Australia (90%), however, 28% of them came from families in which their mother or stepmother was born overseas and 35% reported that their father or stepfather was born overseas.

There was an even spread of participants from each of the DoEIA levels with 35.4% from Bronze, 27.5% Silver and 37.3% from the Gold Award Level. A total of 40 (78%) of participants had started their award in 2014-2015 and 51% had previously participated in the scheme before, with nearly 50% of those completing their program.
3.4. ROPELOC Analysis

The ROPELOC was adapted for the purposes of this study to provide two scores for each of the 14 personal effectiveness or learning scales. Participants were first asked to rate on a four point scale how true or false each statement of the ROPELOC was in relation to them currently. Available responses ranged from ‘False/Not like me’ to ‘True/Like me’. Immediately, participants were asked to indicate on another four point scale, how much their participation in the DoEIA had helped them in developing that particular quality in them. Available responses ranged from ‘Not at all/It didn’t help’ to ‘A lot/It helped me a great deal’ (see Figure 3 below). Scores for each of the ROPELOC factors were calculated by obtaining the mean of the three items representing each factor. The scores can range from zero to three. Higher scores indicate greater belief in possessing the quality and greater belief that the DoEIA helped in developing this quality through learning.

![Figure 3. Sample questions from adapted ROPELOC survey. Participants were first asked to rate on a four point scale how true or false each statement of the ROPELOC was in relation to them currently. Immediately, participants were asked to indicate how much their participation in the DoEIA had helped them in developing that particular quality in them.](image)

3.5. Qualitative Research

The qualitative methodology of the project used a multi-site and multi-source approach to collect data. Email questionnaires were sent out to participating DoEIA leaders (n= 6), and focus groups were held on site at schools where the DoEIA is organised and run (n=4) across urban and suburban Sydney between March-May 2015. The total number of participants in the 4 focus groups was 38, with an age range of 15-18. DoEIA Award leaders did not participate in the focus groups. This dual stranded, multi-site approach treats each school in NSW, Australia that runs the DoEIA separately, whilst simultaneously examining themes and common qualitative attribution learning effects across the schools. The multi-site data from the qualitative studies of DoEIA learning attribution is non-generalizable, and presents informative local insights into the opinions, judgements and views


about the learning attribution of the DoEIA, by those who run and participate in the Award. Audio recordings from the fieldwork were thematically coded and analysed by the researchers for attribution and an interpretative matrix was placed on the data to produce the qualitative attribution results (sections 4.4. & 4.5.). The research questions used in the qualitative research appear in Appendix III.

The qualitative attribution methodology provides rich, contextually specific representations of how learning due to the DoEIA is attributed at each of the school sites. While evidence from each focus group is particular to a single context, as noted above, the coding, thematic analysis and common research questions across the four schools has enabled cross-school learning attribution similarities and differences to be identified. In this component of the study, qualitative thematic analysis (Saldaña, 2009) was used to understand precise ways in which learning attribution to the DoEIA is conceptualised, positioned and operationalised in the four schools. All transcript data collected from the focus groups and the email responses were open-coded using NVivo software. Robust and evidence-based themes (Walsh, 2003) that illustrate and explain the DoEIA learning attribution at the schools were developed through analysis of generated codes. Notably, although each school delivers the Award independently, there is a strong cross-school DoEIA network amongst schools in NSW, which comprises of regular meetings, common professional development and extensive sharing of resources and approaches within that network. To some extent examining these four schools and having email responses from Award leaders to the research questions, provides an insight into the DoEIA and OE professional learning community in NSW that exceeds the individual schools. Focus groups with students have identified how students perceive relations between the Award, learning attribution and particular learning effects as they perceive them. Quotes from Award leaders via email responses and students from the focus groups are used in the Tables 7 & 8 in Section 4 below to illustrate what each perceive the learning attribution of the DoEIA to be.
4. Results

4.1. Introduction

In the results sections below, the quantitative results will be analysed before the qualitative results, as they are demonstrative of different research techniques and procedures to data. In a mixed-methods study of this type, the answers to the research questions will vary in the first instance according to the quantitative or qualitative approach that is taken. The research main questions are:

1) What is the learning attribution that the Award encourages?
2) Is this attribution measurable?
3) How do these attributions translate to learning effects?

The sections below will therefore detail the quantitative results to the survey and the qualitative results to the email response and focus group data sets separately. In the last section, a synthesis of the two research approaches will bring together the data sets and analysis with the aim of answering the three main questions as listed above.

4.2. Effectiveness Scores

Initial results in relation to the participant’s responses to their learning attribution can be obtained by looking at the mean scores for Step 1 (S1) and Step 2 (S2) side by side (see section 3.4. above). This level of analysis allows us to see whether the two scores looked dramatically different from each other indicating a difference between having the skill and believing it was due to participation in DoEIA. Table 4 below shows the mean scores for each of the 14 scales for both S1 (How ‘true’ individuals felt the comments were for them) and S2 (How much they had felt DoEIA had helped in developing this skill through learning). Scores range from 0 to 3, higher scores indicating a higher level of agreement.

<table>
<thead>
<tr>
<th>ROPELOC Scale</th>
<th>Mean S1</th>
<th>Mean S2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative</td>
<td>2.52</td>
<td>2.57</td>
</tr>
<tr>
<td>Teamwork</td>
<td>2.01</td>
<td>2.29</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>2.33</td>
<td>2.40</td>
</tr>
<tr>
<td>Leadership Ability</td>
<td>2.42</td>
<td>2.44</td>
</tr>
<tr>
<td>Active Involvement</td>
<td>2.50</td>
<td>2.22</td>
</tr>
<tr>
<td>Quality Seeking</td>
<td>2.03</td>
<td>2.11</td>
</tr>
<tr>
<td>Social Effectiveness</td>
<td>2.21</td>
<td>2.13</td>
</tr>
<tr>
<td>Stress Management</td>
<td>1.86</td>
<td>2.01</td>
</tr>
<tr>
<td>Time Efficiency</td>
<td>1.76</td>
<td>2.14</td>
</tr>
<tr>
<td>Cope with Change</td>
<td>1.96</td>
<td>2.13</td>
</tr>
<tr>
<td>Open Thinking</td>
<td>2.41</td>
<td>2.26</td>
</tr>
</tbody>
</table>
Internal LOC | 2.43 | 2.13
External LOC | 1.16 | 1.11
Overall Effectiveness | 1.95 | 2.07
Mean | 2.11 | 2.14

Note: S1 (How ‘true’ individuals felt the comments were for them) and S2 (How much they had felt DoEIA had helped in developing this skill). Scores range from 0 to 3. With higher scores indicating a higher level of agreement. LOC: Locus of Control.

The relationship between the scores can also be visualised in the form of a graph plotting both scores side by side. Figure 4 below visually shows the relationship between both S1 and S2.

![Graph showing the relationship between S1 and S2 scores](image)

Figure 4. Mean scores (n=51) for the Adapted ROPELOC scales for S1 (How ‘true’ individuals felt the comments were for them) and S2 (How much they had felt DoEIA had helped in developing this skill). Scores range from 0 to 3, higher scores indicating a higher level of agreement. LOC: Locus of Control.

It can be seen for the results that DoEIA participants rate their personal levels of effectiveness quite high with an average score of 2.1. Participants also rate the learning attribution that the program has helped to develop in terms of their effectiveness qualities high, with an average score of 2.14.

Some interesting patterns arise from the participants responses. DoEIA participants do not endorse the belief that external events control their learning or lives (External LOC), nor do they believe that participating in DoEIA would teach them this. This is a very positive finding, as it serves to validate that the goals of DoEIA are being learned by participants, but also that the pattern of relationships that the DoEIA program consists of is consistent with what would be hypothesised (e.g. increased levels of teamwork). Effectiveness qualities which would be expected to be encouraged by participation in DoEIA such as ‘Cooperative Teamwork’, ‘Leadership Ability’, ‘Self-Confidence’ and ‘Social Effectiveness’ are endorsed as having been encouraged by DoEIA (as demonstrated by higher scores) than those that may be less so such as time efficiency and quality thinking.
Further analysis was carried out to understand ‘how much’ participants attributed DoEIA with helping them to develop the specific life effectiveness qualities measured by the adapted ROPELOC. Participant’s mean responses for each scale were aggregated into each of the four scale points of the ROPELOC for S2 which asked how much they had felt DoEIA had helped in developing their skills (see figure 4 above). The possible four responses were: Not at All, Little, Much and A lot. Table 5 provides the results of this analysis. The table shows the percentage of participants who endorsed each of the four categories.

<table>
<thead>
<tr>
<th>ROPELOC Scale</th>
<th>Not at All</th>
<th>Little</th>
<th>Much</th>
<th>A lot</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative Teamwork</td>
<td>2</td>
<td>4</td>
<td>28</td>
<td>67</td>
<td>100</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>2</td>
<td>8</td>
<td>45</td>
<td>45</td>
<td>100</td>
</tr>
<tr>
<td>Leadership Ability</td>
<td>4</td>
<td>6</td>
<td>33</td>
<td>57</td>
<td>100</td>
</tr>
<tr>
<td>Active Involvement</td>
<td>0</td>
<td>14</td>
<td>24</td>
<td>63</td>
<td>100</td>
</tr>
<tr>
<td>Quality Seeking</td>
<td>0</td>
<td>14</td>
<td>45</td>
<td>41</td>
<td>100</td>
</tr>
<tr>
<td>Self-Confidence</td>
<td>4</td>
<td>16</td>
<td>47</td>
<td>33</td>
<td>100</td>
</tr>
<tr>
<td>Social Effectiveness</td>
<td>4</td>
<td>16</td>
<td>45</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>Stress Management</td>
<td>8</td>
<td>18</td>
<td>37</td>
<td>37</td>
<td>100</td>
</tr>
<tr>
<td>Time Efficiency</td>
<td>2</td>
<td>18</td>
<td>41</td>
<td>39</td>
<td>100</td>
</tr>
<tr>
<td>Cope with Change</td>
<td>4</td>
<td>18</td>
<td>35</td>
<td>43</td>
<td>100</td>
</tr>
<tr>
<td>Open Thinking</td>
<td>0</td>
<td>16</td>
<td>39</td>
<td>45</td>
<td>100</td>
</tr>
<tr>
<td>Internal LOC</td>
<td>0</td>
<td>22</td>
<td>49</td>
<td>29</td>
<td>100</td>
</tr>
<tr>
<td>External LOC</td>
<td>24</td>
<td>49</td>
<td>24</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>Overall Effectiveness</td>
<td>8</td>
<td>14</td>
<td>47</td>
<td>31</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: n=51. S2: How much they had felt DoEIA had helped in developing their skill (learning attribution). Values taken from mean scores for each of the modified ROPELOC scales. All values are rounded to nearest whole number. LOC: Locus of Control.

The results clearly indicate that participants attributed DoEIA in helping them to develop each of the life effectiveness skills measured by the ROPELOC. The results show that 67% of participant’s mean score for Cooperative Teamwork was in the helped ‘A lot’ range, 28% in the helped ‘Much’ and approximately 6% in the helped ‘little’ to ‘Not at all’ range. The External locus of control scale which assesses participants opinion that external events rule their success shows an inverse relationship, that is, that participating in DoEIA helped ‘little’ to ‘Not at all’ (73%) to foster this view.

The fact that most participants felt that DoEIA contributed to their acquisition of each skill is represented in Figure 5. The graph shows the percentage of participants who felt that DoEIA either helped ‘Little’, obtained by combining ‘Not at all’ with ‘A little’ results; or Much, obtained by combining ‘Much’ and ‘A Lot’ results.
As can be seen, participants overwhelmingly attributed learning key life effectiveness skills to participation in DoEIA, whilst not contributing to those less desirable, such as external locus of control. Although looking at mean scores for each scale can be quite revealing, it does not allow us to discern the strength of the relationship between having the effectiveness skill and attributing its development to participating in the DoEIA. It also does not allow us to quantify whether these relationships could have occurred by chance. To better appreciate the nature of the attribution being made by each participant, a correlational statistical analysis was carried out, looking at the relationship between believing to have a life effectiveness skills and attributing the learning and development of that skill to participating in the DoEIA. The results of these analyses are presented in the next section.
4.3. Correlation Analysis

In order to ascertain whether participants in the DoEIA could attribute the learning that had enhanced their life effectiveness in areas measured by the ROPELOC, a bivariate Pearson correlation analysis was conducted. A correlation is a statistic which ascertains whether two variables are associated with each other in a non-random fashion. In this instance, whether possessing an attribute such as ‘Leadership Ability’ by a participant is associated with their attributions that participating in DoEIA helped them develop that ability. Variables can be positively or negatively correlated. Positive correlations mean that higher levels of one variable tend to be associated with higher levels of the second variable. So that higher levels of ‘Leadership Ability’ are associated with higher levels of belief that DoEIA helped in developing ‘Leadership Ability’. A negative correlation means the opposite, so that as one variable rises (e.g. possessing Leadership Ability) the other lowers (e.g. belief that DoEIA helped in developing Leadership Ability). Correlations can range from -1.0 (perfect negative correlation), zero (indicating no relationship between the two variables) to +1.0 (perfect positive correlation). The stronger the association, the closer the correlation coefficient comes to ±1. Furthermore, each correlation coefficient can be subjected to significance testing. A statistically significant correlation is indicated by a probability value of less than 0.05. This means that the probability of obtaining such a correlation coefficient by chance is less than five times out of 100, or if a criterion of 0.01 less than one time out of 100. The presence of a statistically significant correlation therefore indicates that the presence of a relationship is unlikely to be caused by chance alone.

Another advantage of using a correlation statistic is that the test of significance does not tell us about the importance of an effect. We gained an insight based on the pattern of reporting by participants above (see Figure 5 and Table 5) that they felt that it had helped ‘Much’ to ‘A lot’. Although useful, those results do not provide an objective means by which to judge how much of an effect participating in the DoEIA has on developing life effectiveness skills according to the participants. When we measure the size of an effect it is known as an effect size (Field, 2001). An effect size is a standardised (objective) measure of the magnitude of the observed effect (Field, 2013). Cohen (1988) developed a widely accepted set of axioms in relation to what constitutes a large or small effect:

- $r = .10$ (small effect)
- $r = .30$ (medium effect)
- $r = .50$ (large effect)

These guidelines can be used to assess the importance of the effects in this study (Field, 2013).

Table 6, below shows the results of the correlation analysis. The means score for each scale of the ROPELOC was used. Correlations were carried out between: S1 (How ‘true’ individuals felt the comments were for them) an indication of possessing a Life Effectiveness skill and S2 (How much they had felt DoEIA had helped in developing this skill) an indication of DoEIA’s contribution to the development of that skill. Table 6 also shows whether these correlations were significant, as well as
a qualitative interpretation of the effect size of this correlation. For ease of interpretation, the effect sizes have been ranked in descending order from largest effects to smallest.

Table 6. Correlation between S1 and S2 for each of the ROPELOC Life Effectiveness scales.

<table>
<thead>
<tr>
<th>ROPELOC Scale</th>
<th>r (S1 x S2)</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Confidence</td>
<td>.69**</td>
<td>Large</td>
</tr>
<tr>
<td>Cope with Change</td>
<td>.69**</td>
<td>Large</td>
</tr>
<tr>
<td>Leadership Ability</td>
<td>.65**</td>
<td>Large</td>
</tr>
<tr>
<td>Overall Effectiveness</td>
<td>.60**</td>
<td>Large</td>
</tr>
<tr>
<td>Active Involvement</td>
<td>.52**</td>
<td>Large</td>
</tr>
<tr>
<td>Time Efficiency</td>
<td>.49**</td>
<td>Medium</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>.48**</td>
<td>Medium</td>
</tr>
<tr>
<td>Social Effectiveness</td>
<td>.48**</td>
<td>Medium</td>
</tr>
<tr>
<td>Cooperative Teamwork</td>
<td>.44**</td>
<td>Medium</td>
</tr>
<tr>
<td>Stress Management</td>
<td>.44**</td>
<td>Medium</td>
</tr>
<tr>
<td>External LOC</td>
<td>.43**</td>
<td>Medium</td>
</tr>
<tr>
<td>Internal LOC</td>
<td>.33*</td>
<td>Medium</td>
</tr>
<tr>
<td>Open Thinking</td>
<td>.24</td>
<td>Small</td>
</tr>
<tr>
<td>Quality Seeking</td>
<td>.18</td>
<td>Small</td>
</tr>
</tbody>
</table>

Note: S1 (How ‘true’ individuals felt the comments were for them) and S2 (How much they had felt DoEIA had helped in developing this skill). \( r = \) Pearson correlation. LOC: Locus of Control. \( n=51. **Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed). Effect size estimates and descriptors based on Cohen (1988).

From Table 6, it can be seen that for all but two of the qualities (Quality Seeking and Open Thinking) the attribution that participation in the DoEIA developed each of the life effectiveness skill measures was statistically significant and unlikely to be due to chance. Importantly, by treating correlations as effect sizes, and by applying Cohen’s guidelines, an estimation of the size of the effect as attributed by the participants can be obtained.

The results clearly show that participant’s learning attribution of the contribution of DoEIA to the development of their personal effectiveness is substantial. These results are extremely encouraging, and demonstrate that participants attribute experiencing significant positive development of life effectiveness as a result of DoEIA participation. When examining the size of these reported effects in relation to objective qualifiers (effect sizes) the results demonstrate that these attributions are not trivial, and by the participants own ratings, their development was highly influenced by their participation in DoEIA. More importantly, the pattern of effects, i.e. where DoEIA had the most to least effects, is consistent with the program’s objectives. As such, participants felt that DoEIA had the largest effects in relation to developing their self-confidence, ability to cope with change, leadership ability and overall life effectiveness (overall effectiveness of a person in all aspects of life). Medium level effects were found for time efficiency, self-efficacy, social effectiveness, cooperative teamwork, stress management and external and internal locus of control. Whilst only small effects were found for two of the life effectiveness qualities that measured open thinking and quality seeking.
4.4. Qualitative Results

The qualitative results were analysed separately from the quantitative survey data set, and 1) for the themes that came out of the email responses by Award leader results and, 2) for the participants in the focus groups, according to the research questions (Appendix III) and specifically in terms of the attribution options, i.e. total attribution, intermediary attribution and non-attribution (Tables 7 & 8). The results show how the email respondents and focus group participants understand the learning attribution of the DoEIA from their perspectives. All responses have been de-identified according to the ethics requirements.

4.5. Award leader results

Selected quotes from the email responses to the research questions were distributed across the three attribution options in the table below:

Table 7. Qualitative research questions and attributions for Award leaders (n=6)

<table>
<thead>
<tr>
<th>Question</th>
<th>Total attribution</th>
<th>Intermediary attribution</th>
<th>Non-attribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the measurable learning effects on students of participation in the Duke of Edinburgh award scheme?</td>
<td>Develops learning across a huge range of contexts. Learning is enhanced through gains in self-confidence &amp; skill levels.</td>
<td>It gives an opportunity for students to learn how to manage risk. Some specific learning effects, e.g. the service element/trying new outside sports.</td>
<td>There are none. Learning is not measurable.</td>
</tr>
<tr>
<td>What are the effects of the Duke of Edinburgh awards on learning from your perspective?</td>
<td>A range of interpersonal skills like confidence are learnt and developed and communication and interaction skills with adults, people who are not usual peers.</td>
<td>There are a number of opportunities for students to learn about themselves and others - how best to manage for themselves, about their strengths and weaknesses, about other people in their group, working together, how they deal with stressful situations.</td>
<td>I don’t believe it has any effect on learning, or, it’s only hearsay.</td>
</tr>
<tr>
<td>How can you explain these effects on student learning of the Duke of Edinburgh’s International Award program?</td>
<td>Students who do Duke of Ed tend to be more engaged in their learning because they have to be organised, involved and active. It allows them to actually put information learnt</td>
<td>Difficult to see if or how these opportunities during the expedition (for example), have an effect on the students learning when they return to their normal environments.</td>
<td>I think most of the students who are engaged with the program are conscientious to begin with.</td>
</tr>
</tbody>
</table>
### How enduring are these effects on learning of the participants of the Duke of Edinburgh's International Award?

Life skills learnt are enduring as personal skills, interpersonal skills etc. will not disappear especially if they are continued to be used, which in most cases would happen. Every single student who has been involved has been affected significantly. They still talk about the experiences they were able to be involved with, particularly the Adventurous Journey. These memories, both positive and negative, will stay with them for a long time because of the uniqueness of the opportunity compared to the rest of their schooling.

The opportunity to give service (for example) over an extended period of time also enables young people to witness and experience the benefits that their Award provides to both themselves and others and encourages them to become better citizens.

You need to develop/devise a way to measure whether their results have improved before you can say whether effects they’re enduring or not. We do not keep a track on this information.

### Have you noticed any significant differences in the learning effects on the types of participants in the Duke of Edinburgh’s International Award, e.g. in gender, cognitive abilities?

They all experience the benefits and positive effects in their own way, no matter what their gender or cognitive ability.

Increased awareness and acknowledgement of people from diverse backgrounds for some. Students from supportive families/backgrounds who value education and extra-curricular programs are more likely to be involved in Duke of Ed. Generally, students from higher incomes do Duke of Ed.

No I have not, because there is no way of measuring this.

### How can you understand the differences in learning that takes place in a classroom and

It starts with the relationship you have with your students...a tough student in the classroom is

Unlike structured classroom learning, outdoor education often provides participants with knowledge on how

I don’t believe the two are mutually exclusive - in regards to impacting results. But, there is
that which happens in the outdoors education context such as the Duke of Edinburgh's International Award?

- instantly better after an expedition, as you see them in a different light and you get to know them on a whole new level. Then you can tailor their learning to them e.g. with examples and questions that relate to what they like and do; and they also have a different level of respect for you as well. No more tough student.
- to overcome adversity and outdoor survival skills, enhanced personal and social development, advanced problem solving skills, enhanced teamwork and a more profound relationship with nature. There are few opportunities within school to experience anything else outside the classroom. The outdoor educator/teacher involved usually builds rapport with the young people quickly and effectively and this leads to more impact in learning.

| What do your participants think about? | They love the training and the expeditions/Adventurous Journeys. They enjoy taking up new or further progressing their skills and physical recreation. We find that the Service component is the hardest one to set up but once they have found the time and got themselves organised that they get a great deal out of this component. | 1) Service, The participants enjoyed giving back to the community, particularly those that were involved with helping those in need, such as through Salvation Army and charity programs in the local community.
2) Skills, Participants found this section the most difficult to engage in. Quite often they lacked ideas of what to do, and were sometimes limited with what was available in a smaller community.
3) Physical Recreation This was by far the easiest for them to participate in. The majority of students were already partaking in physically active
   | The students find the service the most difficult to complete, but also one of the most rewarding aspects. Skills tend to be things they are already doing- e.g. reading, however, I feel as though this component is a little ‘loose’ in terms of their engagement. Students seem to pick something easy, like reading, but aren’t actually improving. I believe they feel this is the easiest one to complete, and don’t necessarily improve in any way. Physical rec, again is something most of them already do, e.g. soccer or dancing. They find this one the easiest to complete. AJ’s are the aspects that they seem to look forward to, and |
pursuits, or were able to make the most of extra-curricular clubs after school.

4) Adventurous Journey (recognising that at Gold level there is also a Residential Project requirement). We haven’t had any Gold level participants as yet. All participants in the Bronze and Silver levels have been challenged throughout, and have relished the experiences. This is the section that I personally believe will be remembered for the longest time. Even the difficult parts of the journey allowed the participants to muster strength and courage they didn’t know existed (based on conversations at the conclusion as well as reflections). This is the part they also look forward to the most.

Do you want to make a comment here (9 pts below)? These parts of the award have 9 stipulated impacts:

<p>| 1) Improved educational attainment | They all agree that they see improved educational attainment and wellbeing. They make friends in all the year groups and the award has assisted in new girls to the school cementing friendships. They love that they can do everything that the boys do and they enjoy doing it in style! I am very fortunate to work in a school where we don’t have a lot of | 1) Improved educational attainment; Difficult to say. None of the participants have signed out of school, and some that I have personally taught/currently teaching have improved since the beginning of their award. |
| 2) Improved employability and sustainable livelihoods | | 2) Improved employability and sustainable livelihoods; Never an issue |
| 3) Improved health and well-being | | 3. See above. |
| 4) Increased participation in civic life | | 4. Agreed it helps. Puts them out of their comfort zones and forces them to engage with the community. I think this is an essential |
| 5) Social Inclusion | | 1. No evidence of such. |
| 6) The environment | | 2. Agree the award is desirable for employment and most students continue through the stages of the award creating continuity and sustaining functional and active lifestyles. |</p>
<table>
<thead>
<tr>
<th>7) Gender equality and the empowerment of women</th>
<th>8) Reduction and prevention of violence, conflict resolution and peace-building</th>
<th>9) Reduced reoffending (recidivism) rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>conflict, we have no violence and all the peace-building that we have do is predominately around misunderstandings between friends and we don’t have any offending behaviours to see any reduced rates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Improved health and well-being; Without doubt. They were all happier and healthier. They showed a recognition that experiences in nature have a positive impact on health (holistically).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) Increased participation in civic life; With some participants yes, others were not interested or mature enough</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) Social Inclusion; Connections made with social groups and individuals that were not previously there, but continued even after completing the award.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) The environment; Greater appreciation for the environment, a stronger understanding of ethical practice and being able to acknowledge the heritage of some sites.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7) Gender equality and the empowerment of women; This was never really an issue with the students that were involved from our school.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8) Reduction and prevention of violence, conflict resolution and peace-building; Again, not really an issue- the students involved were not</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Improved health and well-being; Definitively helps students interact on a social level across different mediums. It may not necessarily enhance their social inclusion within a classroom/school context, but certainly engages them within meaningful social interactions on AJ’s.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Increased participation in civic life; Definitely helps students interact on a social level across different mediums. It may not necessarily enhance their social inclusion within a classroom/school context, but certainly engages them within meaningful social interactions on AJ’s.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Improved health and well-being; Without doubt. They were all happier and healthier. They showed a recognition that experiences in nature have a positive impact on health (holistically).</td>
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<tr>
<td>4) Increased participation in civic life; With some participants yes, others were not interested or mature enough</td>
<td></td>
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</tr>
<tr>
<td>5) Social Inclusion; Connections made with social groups and individuals that were not previously there, but continued even after completing the award.</td>
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<td>6) The environment; Greater appreciation for the environment, a stronger understanding of ethical practice and being able to acknowledge the heritage of some sites.</td>
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</tr>
<tr>
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<tr>
<td>3) Improved health and well-being; Without doubt. They were all happier and healthier. They showed a recognition that experiences in nature have a positive impact on health (holistically).</td>
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<td>5) Social Inclusion; Connections made with social groups and individuals that were not previously there, but continued even after completing the award.</td>
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<tr>
<td>8) Reduction and prevention of violence, conflict resolution and peace-building; Again, not really an issue- the students involved were not</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
really violent or anything like that. However, they were definitely able to develop conflict resolution. There were some minor trust issues at times throughout the award that were able to be effectively resolved.

9) Reduced reoffending (recidivism) rates N/A

The themes from the Award leader email results were divided into the three columns in the table above, i.e., total attribution, intermediary attribution and non-attribution. In terms of the total attribution option, themes that could be deduced from the qualitative results included:

- ‘Award-believers’ — those who attribute learning to the Award as a matter of belief.
- ‘Life-learners’ – attribution of learnings for life to the Award.
- ‘Learning transference’ — the learning gains that happen due to the Award can be wholly transferred and therefore attributed to other contexts/situations.
- ‘Personal Award’ — those who attribute a different Award for every different learner, therefore attributing the personalisation of the Award.
- ‘Award context’ — the attribution of the learning that the Award affords fits in with the learning needs and context of the particular school/cohort.

In terms of the intermediary attribution option, the themes deduced from the Award leader results included:

- ‘Reflective learners’ – those who suggest that the learning attribution of the Award is a matter of participants finding out about themselves more fully.
- ‘New experiences’ – the notion that the learning of the Award is a matter of constructing new positive experiences for the learner.
- ‘Character development’ – the theme that the learning attribution of the Award is a matter of character building, and this development depends on the type of character that the participant has in the first place
- ‘Social nature’ — the theme that learning attribution depends on working with the sociability of the participants, which is assumed to be mutable.
- ‘Context fluctuations’ — suggests that there are aspects of the Award that fit in exactly with the learning needs of the cohort (usually the adventurous journey), and other that don’t, e.g. physical recreation because it is already covered at school. Learning attribution therefore fluctuates according to the cohort/context/element.
Lastly, in term of the **non-attribution option**, the themes derived from the Award leader email feedback include:

- ‘Award sceptics’ — those who do not attribute learning to the Award.
- ‘Parallel lives’ — this theme involves the notion that any learning attribution of the Award is parallel and separate from other modes of learning.
- ‘Domesticated Award’ — the theme that the Award can and does lead to participants choosing safe options which do not challenge them or produce any new learning.
- ‘Award applicants effect’ — the theme that the Award only attracts the types of students who would have achieved the type of learning that could be attributed to it in the first place.
- ‘Learning mystics’ — the theme that the learning attribution of the Award cannot be measured.

### 4.6. Focus group participant results

Selected quotes from the focus group transcripts to the research questions were distributed across the three attribution options in the table below:

<p>| Table 8. Qualitative research questions and attributions for focus groups (n=38) |
|-----------------------------------|------------------|------------------|------------------|
| Question | Total attribution | Intermediary attribution | Non-attribution |
| <strong>What are the measurable learning effects on participation in the Duke of Edinburgh award scheme?</strong> | I have learnt how to participate in all areas of life and school. I can measure the learning of the Award through how much better I feel about myself on a daily basis and how much more I am trying to do better. | We have learnt how to play instruments better, and have improved our skills in sports. I have learnt how to read maps better and can now take care of myself in a dangerous situation, especially outdoors. I am better at horse riding. | I cannot measure the learning that the Award has given me. I do not understand the question. |
| <strong>What are the effects of the Duke of Edinburgh awards on learning from your perspective?</strong> | The Award has taught me to work with others and to cooperate better with adults. I have learnt how to make better use of my time and to work with my friends to make the best of what we have. | The learning that the Award has given me has helped with communication and with being organised in advance for things that might happen. I feel more mature and able to cope with what is happening now. The Award has been hard to complete because of the extra work that we have to do during the week and there isn’t | I am good at learning, so the Award has not helped with that. |
| How can you explain these effects on learning of the Duke of Edinburgh's International Award program? | The learning form the Award is explained by the fact that it take us out of our comfort zones. The Duke of Ed is a very beneficial thing to do and encourages learning because it is good to do. The Award gives me something to look forward to. | We learn in a different way due to the Award. For example, we are helping with old people in my area, and we have to be patient to do that properly, but it is very rewarding. I can explain that doing the Award makes me feel like a better person, and that I will succeed in the long run. I have to write down what I am doing on the Award and that makes me more aware of my learning and conscientious. | No, I can’t. This is a very difficult question to answer. |
| How enduring are these effects on learning of the participants of the Duke of Edinburgh's International Award? | I think that the Award’s values will change my life forever. I will learn how to live better with others and everything around me for the rest of my life. I can now see things in a new way after doing the Award. | I have only just finished the Bronze, so do not know how long these effects will last, I do feel more motivated to go out and do things than I used to. I am currently doing the Gold award and believe that these effects of the Award will last at least for a couple of years. I am more adventurous now. The amount that the positive Award’s effects endure depends upon how much you try to emulate them in other aspects of your life, for example, personal relationships. | I am not sure. I have only just started doing the Award this year. |
| Have you noticed any significant differences in the learning effects on the types of participants in the Duke of Edinburgh's | Everyone takes part equally well. The teachers encourage everyone to try their best, despite their levels or abilities. | Girls get more out of the Award than the boys. I was very unsure about my contribution to the Award, but now I have realised that I can take part just | There are no significant differences. The Award does not change people. |</p>
<table>
<thead>
<tr>
<th>International Award, e.g. in gender, cognitive abilities?</th>
<th>How can you understand the differences in learning that takes place in a classroom and that which happens in the outdoors education context such as the Duke of Edinburgh's International Award?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I love the ways in which the Award has helped me to learn about important things in the community. It is the best thing that has happened to me at school. I can now share better with my friends</td>
<td>I like the outside activities the best as we feel free. Learning inside a classroom can be very boring. The ways in which the instructor let us solve problems on the adventurous journey was just ace. The adventurous journey has helped me to think about what I want to do with my life. Learning outside is much more relaxing. There are no tests in the Duke of Ed.</td>
</tr>
<tr>
<td>No, the difference between the learning that happens in the classroom and in the Duke of Edinburgh is too great.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What do you think about?</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Service</td>
</tr>
<tr>
<td>ii) Skill</td>
</tr>
<tr>
<td>iii) Physical Recreation</td>
</tr>
<tr>
<td>iv) Adventurous Journey (recognising that at Gold level there is also a Residential Project requirement).</td>
</tr>
<tr>
<td>I loved all aspects of the Award, especially the fact that we are trusted to learn and not told what to do all the time. I have learnt to learn independently and to make better choices.</td>
</tr>
<tr>
<td>People have dropped out of the adventurous journey because it is too expensive, there should be cheap options. The service aspect of the Award was not well organised, and we had to do a lot of it ourselves, though in the end I enjoyed it. The adventurous journey is easily the best part of the Award because it is exciting and different. All my friends did the Award, so I chose it as well, and it has been a great and worthwhile experience.</td>
</tr>
<tr>
<td>People chose very easy skills to complete at our school as if was a joke. Some students went on holiday for the adventurous journey, and that was not right.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do you want to make a comment here (9 pts below)? These parts of the award have 9 stipulated impacts:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Improved educational</td>
</tr>
<tr>
<td>I have become a better learner and can now decide what I want to do. I am more ambitious. My mind is more concentrated on what I want to do, as I have been given</td>
</tr>
</tbody>
</table>
attainment
2) Improved employability and sustainable livelihoods
3) Improved health and well-being
4) Increased participation in civic life
5) Social Inclusion
6) The environment
7) Gender equality and the empowerment of women
8) Reduction and prevention of violence, conflict resolution and peace-building
9) Reduced reoffending (recidivism) rates

a wider range of learning experiences due to the Duke of Ed. to think about things and to act on.

skills that I definitely have picked up, e.g. sailing and that had made a difference to my outlook on what I want out of life. There are lots of different people at our school who have learnt to talk and work together because of the Duke of Ed. The skill of conflict resolution has been addressed at school but put into action by the Duke of Ed. Our school is quite peaceful, everyone gets on better who goes on the Duke of Ed. Girls that I know at our school really try hard at the Award.

my friends as an adventure holiday. The kids with really bad problems do not do the Duke of Ed.

The themes from the DoEIA participant focus groups were divided similarly to the Award leader email responses, and according to the 3 attribution learning options. In terms of the total attribution option, the deduced themes were:

• ‘Award beneficent’ — this learner is deeply changed for the better by specific participation in the Award, and attributes this transformation to the elements of the Award.
• ‘Award idealist’ — similar to the Award beneficent, this learner will attribute powerful and multi-level effects to participation in the Award (e.g. spiritual advancement).
• ‘Innovative learners’ — this theme covers learners who are able to use the learning from the Award in other parts of their lives, and ‘grow’ as such, holistically and as improved/rounded individuals.
• ‘Group cohesion’ — describes the ways in which particular social dynamics can be submerged and overcome if necessary in the overall sense of progress due to the total learning attribution of the Award.

In terms of the intermediary attribution option, the themes deduced from the focus group results included:

• ‘Peer-to-peer learners’ — these learners attribute their success to the relationships established due to participation in the Award.
• ‘Award surprises’ — the non-formal aspect of the Award can produce unlikely heroes and students who do not thrive elsewhere having a chance to succeed and attribute learning success to their growth due to the Award.
• ‘Award enunciation’ — this theme covers the ability to express the particular learnings from the Award and to therefore attribute them.
• ‘Singular adventurers’ — this theme involves Award participants who attribute most learnings to the adventurous journey.

Finally, in term of the **non-attribution option**, the themes derived from the participant focus groups include:

• ‘Award ego-resisters’ — describes participants in the Award who do not attribute any of its effects to the Award, but are ‘ego-resistant’ to attribution.
• ‘Learning non-articulation’ — is the theme of Award participants who are unable to express the learnings that happen due to the Award.
• ‘Award non-co-operant’ — refers to individualists, who resist the social/collective aspect of the Award.
• ‘Award coasters’ — refers to Award participants who want the benefits of the Award (e.g. having it on their C.V.), without making the necessary effort to achieve any gains.

### 4.7. Summary of results

The quantitative and qualitative evidence from this small pilot study points to the **intermediary attribution option** as defined by this project above. This is because the specific life effectiveness attributes that were found to be most attributed to the DoEIA program, i.e., Self-Confidence/Cope with Change/Leadership Ability/Overall Effectiveness/Active Involvement, are the specific qualities that the DoEIA as a non-formal youth development program encourages. Therefore, there is no evidence from this small pilot scheme that the total attribution or non-attribution options can be properly used to describe the learning that the Award encourages. In terms of the qualitative results from the project, there were those who described the effects of the Award in terms of total attribution and those who resisted learning attribution to the Award (non-attribution). The quantitative results are interesting in this respect, in that learning attribution of life effectiveness skills that one might expect to be attributed to the Award, such as: Time Efficiency/Self-Efficacy/Social Effectiveness/Cooperative Teamwork/ Stress Management/External LOC (Locus of Control)/ Internal LOC are in fact shown to be only correlated in a medium strength to the Award. Participants are therefore attributing this learning to activities that they do elsewhere as well as to the Award. Not surprisingly, the academic attributes of: Open Thinking and Quality Seeking are only mildly attributed to the Award, as participants will judge that they learn these attributes elsewhere, usually in the traditional formal classroom setting. The qualitative attribution results point to the spectrum of reactions to the Award, and the themes that are nestled in and through the Award’s functioning. To some extent, this is a result of the social milieu in which the Award sits, i.e. as a youth development program for 14-25 year olds with voluntary Award leaders, often amongst the teaching profession.
5. Discussion

5.1. The meaning of learning attribution theory for the DoEIA

John Hattie (2009) has benchmarked the correlational effect size as being 0.4 from more than 800 meta-studies on learning. In effect, this means that according to Hattie, any effect sizes found due to the correlational analysis over 0.4 amount to learning happening due to whatever procedure or intervention that has taken place and been investigated. Anything below 0.4 means that in effect no learning has taken place due to the intervention. In terms of the specifics of this study, where the DoEIA is the intervention, the learning attributions that have an effect size over 0.4 are: 1) Self-Confidence, 2) Cope with Change, 3) Leadership Ability, 4) Overall Effectiveness, 5) Active Involvement, 6) Time Efficiency, 7) Self-Efficacy, 8) Social Effectiveness, 9) Cooperative Teamwork, 10) Stress Management and, 11) External LOC (Locus of Control). This is an important result for this pilot study, and points to the ability of the small sample that took part in the study being able to attribute the learning of these skills specifically to the DoEIA.

Learning attribution to the effects of the Award are therefore powerful indicators of the types of developmental processes that the Award encourages and possibly maintains. However, such learning attribution does not necessarily mean that these developmental processes will result in the types of long term outcomes such as: increase employability, increased healthiness or reduced offending behaviours. Whilst the Award can certainly act as a pivot and basis for these claims as long term possible effects, one of the uses of learning attribution theory is to understand how learning is mutable and can be redirected by life circumstances beyond the control of the Award or any such youth development program or the auspices of schooling. For example, research has shown that severe problems at home, economic hardship and contact with violent, anti-social or disruptive adult behaviours (even if they are online), can act as counter and opposing forces to the beneficial aspects of programs such as the Award (Gewirtz & Edleson, 2007). The qualitative part of this study shows how even though on balance, the Award could be said to have an intermediary learning attribution effect on its participants, there are those even in this small sample who resist the attribution of learning to the Award and those who over attribute learning effects to the Award. Both of these perspectives show how the common sense, positive appraisal of the effects of the Award on youth development can be doubted or over-stated.

In sum, learning attribution theory is a realistic and balanced way to look at what effects the DoEIA has on youth outcomes and the processes of youth change. It is an unstated cliché to point out that youth development is a rocky, contradictory and potentially fraught affair. However, with the help of learning attribution theory, the WSU research team believe that the real effects of the DoEIA can be sensibly measured, articulated and understood.
6. Conclusion/Recommendations

6.1. Outcomes of this study

Firstly, this is a small pilot study, which requires a larger sample to verify and validate the results above. Further study is also required to:

1) Enhance the understanding of how learning attribution theory works with respect to the Award. In the present study, the quantitative and qualitative components were disconnected. If better coordination and cohesion had happened around the survey and qualitative, follow up work, the ways in which the specific attributes had been made by the DoEIA participants on the survey could have been understood in more depth through qualitative investigation. Enhanced continuity between phases in the research could be fashioned with a larger cohort and more resourcing for the research project.

2) Understand the role of the Award leaders. Clearly, this voluntary activity is of major importance to the running and reputation of the Award. However, even this small pilot scheme found significant variations in the learning attributions made by Award leaders. Follow up specific research into the roles of the Award leaders is required to more fully understand their responsibilities and modes of action, especially as they have such an important part to play in the major, international youth development program that is reality of the Award. As was mentioned above, educational research shows that attribution is an important part of a teacher’s role, especially with respect to classroom management and in feedback on learning (Vaughan & Hogg, 2013). As much of the Award depends on feedback on effort, progress, and in mediating between the participants and different parts and stages of the Award, the ways in which the Award leaders communicate with their DoEIA cohorts is crucial. In effect, investigation into their attribution skills is necessary in follow up research.

3) Examine the continuities and discontinuities between the different parts and stages of the Award. At the moment, the present research study has tended to generalise about the participants and the Award as a whole, though it is clear that, for example, the adventurous journey can and does have a very different effect on youth development than the learning of skills or the service aspect of the Award. More specific research is required to understand the learning attribution of each part of the Award, and how these parts dovetail and relate to one another as participants change as they pass through the Bronze, Silver and Gold stages of the Award.

4) Look in more depth how the Award relates to, complements, contrasts or doubles up with the attribution of formal, school-based learning. At the moment, the study has gained inklings into this potentially interesting relationship, though more research is needed to understand exactly how the relationship between the two spheres works in terms of learning attribution theory.
References


Appendix I
The original ROPELOC instrument (used with permission):

NAME:____________________________________ AGE:___(years) ___(mths) DATE:___/___/____
MALE / FEMALE  (circle one) PROGRAM:_________________________ GROUP:____________

PLEASE READ THESE INSTRUCTIONS FIRST
This is not a test - there are no right or wrong answers.

This is a chance for you to look at how you think and feel about yourself. It is important that you:
• are honest
• give your own views about yourself, without talking to others
• report how you feel NOW (not how you felt at another time in your life, or how you might feel tomorrow)

Your answers are confidential and will only be used for research or program development. Your answers will not be used in any way to refer to you as an individual.

Use the eight point scale to indicate how true (like you) or how false (unlike you), each statement over the page is as a description of you. Please do not leave any statements blank.

FALSE NOT LIKE ME  TRUE LIKE ME
1  2  3  4  5  6  7  8  

This statement doesn't describe me at all; it isn't like me at all  More false than true  More true than false  This statement describes me very well; it is very much like me.

SOME EXAMPLES

A. I am a creative person.
   1  2  3  4  5  6  7  8
   (The 6 has been circled because the person answering believes the statement “I am a creative person” is sometimes true. That is, the statement is sometimes like him/her.)

B. I am good at writing poetry.
   1  2  3  4  5  6  7  8
   (The 2 has been circled because the person answering believes that the statement is mostly false as far as he/she is concerned. That is, he/she feels he/she does not write good poetry.)

C. I enjoy playing with pets.
   1  2  3  4  6  7  8
   (The 6 has been circled because at first the person thought that the statement was mostly true but then the person corrected it to 7 to show that the statement was very true about him/her.)

If still unsure about what to do, ASK FOR HELP.
06. I prefer to be actively involved in things. 1 2 3 4 5 6 7 8
07. I am open to different thinking if there is a better idea. 1 2 3 4 5 6 7 8
08. In everything I do I try my best to get the details right. 1 2 3 4 5 6 7 8
09. Luck, other people and events control most of my life. 1 2 3 4 5 6 7 8
10. I am confident that I have the ability to succeed. 1 2 3 4 5 6 7 8

11. I am effective in social situations. 1 2 3 4 5 6 7 8
12. I am calm in stressful situations. 1 2 3 4 5 6 7 8
13. My overall effectiveness in life is very high. 1 2 3 4 5 6 7 8
14. I plan and use my time efficiently. 1 2 3 4 5 6 7 8
15. I cope well with changing situations. 1 2 3 4 5 6 7 8

16. I cooperate well when working in a team. 1 2 3 4 5 6 7 8
17. I prefer things that taste sweet instead of bitter. 1 2 3 4 5 6 7 8
18. No matter what happens I can handle it. 1 2 3 4 5 6 7 8
19. I am capable of being a good leader. 1 2 3 4 5 6 7 8
20. I like being active and energetic. 1 2 3 4 5 6 7 8

21. What I do and how I do it will determine my successes in life. 1 2 3 4 5 6 7 8
22. I am open to new thoughts and ideas. 1 2 3 4 5 6 7 8
23. I try to get the best possible results when I do things. 1 2 3 4 5 6 7 8
24. When I apply myself to something I am confident I will succeed. 1 2 3 4 5 6 7 8
25. My future is mostly in the hands of other people. 1 2 3 4 5 6 7 8

26. I am competent and effective in social situations. 1 2 3 4 5 6 7 8
27. I can stay calm and overcome anxiety in almost all situations. 1 2 3 4 5 6 7 8
28. I am efficient and do not waste time. 1 2 3 4 5 6 7 8
29. Overall, in all things in life, I am effective. 1 2 3 4 5 6 7 8
30. When things around me change I cope well. 1 2 3 4 5 6 7 8

31. I am good at cooperating with team members. 1 2 3 4 5 6 7 8
32. I can handle things no matter what happens. 1 2 3 4 5 6 7 8
33. I solve all mathematics problems easily. 1 2 3 4 5 6 7 8
34. I am seen as a capable leader. 1 2 3 4 5 6 7 8
35. I like to get into things and make action. 1 2 3 4 5 6 7 8

36. I can adapt my thinking and ideas. 1 2 3 4 5 6 7 8
37. If I succeed in life it will be because of my efforts. 1 2 3 4 5 6 7 8
38. I try to get the very best results in everything I do. 1 2 3 4 5 6 7 8
39. I am confident in my ability to be successful. 1 2 3 4 5 6 7 8
40. I communicate effectively in social situations. 1 2 3 4 5 6 7 8

41. My life is mostly controlled by external things. 1 2 3 4 5 6 7 8
42. I am calm when things go wrong. 1 2 3 4 5 6 7 8
43. I am efficient in the way I use my time. 1 2 3 4 5 6 7 8
44. I cope well when things change. 1 2 3 4 5 6 7 8
45. Overall, in my life I am a very effective person. 1 2 3 4 5 6 7 8
Appendix II
The adapted attribution instrument

**PLEASE NOTE THIS INSTRUMENT INCLUDING INSTRUCTIONS WILL BE ONLINE.**

**Purpose**

The purpose of this survey is to help to find out:

- What you think and feel about yourself
- What you think and feel about participating in the Duke of Edinburgh's International Award

The results of this study will help to identify ways of improving wellbeing support for youth participating in the Duke of Edinburgh's International Award.

**Participation**

*Your participation in the study is voluntary and you can withdraw from the study at any time. Not participating in the study will not affect your relationship with the Duke of Edinburgh's International Award, or your school or any other organization associated with the Duke of Edinburgh's International Award Scheme.*

This is not a test. **There is no right or wrong answer and everybody will have different answers.** It will take about 20 minutes to answer all the questions.

Your answers will only be seen by the researchers and will not be shown to anyone in associated with the Duke of Edinburgh's International Awards, school or your community. Due to this, your confidentiality is assured and **there will be no negative repercussions resulting from your answers, so please answer honestly.** The research team will not report the names of people that participate in the study.

**Student Consent**

**ELECTRONIC CONSENT ONLINE**

Student Consent Form to Participate in Research Study

I agree to participate in the study
Firstly, we would like to ask some background information about you.

A1. What is your date of birth? ___/___/____ (Day/Month/Year)

A2. How old are you now? ________ years

A3. Are you: Male □ 1 Female □ 2

A3.1 What is the postcode of where you live? ___ ___ ___

A4. Where are you conducting the Duke of Edinburgh’s International Award?

___________________________________________________

A5. Which level of the Duke of Edinburgh’s International Award are you currently participating in?

□ 1 Bronze □ 2 Silver □ 3 Gold

A5.1. In which year did you start? (e.g. 2010) ________

A6. Have you participated in the Duke of Edinburgh’s International Award before?

Yes □ 1 No □ 2

A6.1. If Yes, in which year did you Finish? (e.g. 2010) ________ or □ I did not finish.

A7. Are you an Aboriginal and/or Torres Strait Islander:

Yes □ 1 No □ 2

A8.1 Where were YOU born?

1 □ Australia 2 □ United Kingdom 3 □ New Zealand 4 □ Italy
5 □ Greece 6 □ Germany 7 □ Netherlands 8 □ Yugoslavia
9 □ Lebanon 10 □ Vietnam 11 □ China 12 □ Hong Kong
13 □ Philippines 14 □ India

15 □ Other: Please write name of country: ________________________________

A8.2 Where was your Mother or Stepmother born?

1 □ Australia 2 □ United Kingdom 3 □ New Zealand 4 □ Italy
5 □ Greece 6 □ Germany 7 □ Netherlands 8 □ Yugoslavia
9 □ Lebanon 10 □ Vietnam 11 □ China 12 □ Hong Kong
13 □ Philippines 14 □ India

15 □ Other: Please write name of country: ________________________________

A8.3 Where was your Father or Stepfather born?

1 □ Australia 2 □ United Kingdom 3 □ New Zealand 4 □ Italy
5 □ Greece 6 □ Germany 7 □ Netherlands 8 □ Yugoslavia
9 □ Lebanon 10 □ Vietnam 11 □ China 12 □ Hong Kong
13 □ Philippines 14 □ India

15 □ Other: Please write name of country: ________________________________
INSTRUCTIONS

This is a chance for you to look at how you think and feel about yourself. It is important that you:
• are honest
• give your own views about yourself, without talking to others
• report how you feel NOW (not how you felt at another time in your life, or how you might feel tomorrow)

First use the four point scale to indicate how ‘TRUE’ (like you, the statement describes you very well) or how ‘FALSE’ (unlike you, the statement doesn't describe you at all), each statement is a description of you at this present time.

Next indicate how much your participation in the Duke of Edinburgh's International Award (DoEIA) has helped you in developing this quality about you from 'Not at all' (you don’t believe participating in the DoEIA has helped develop this quality) to 'A lot' (you believe that participating in the DoEIA has significantly helped you develop this quality).

<p>| | | | | | | | | |</p>
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<tbody>
<tr>
<td>1</td>
<td>When I have spare time I always use it to paint.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>I like cooperating in a team</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>No matter what the situation is I can handle it</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>I can be a good leader</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>My own efforts and actions are what will determine my future</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>I prefer to be actively involved in things.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>I am open to different thinking if there is a better idea.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>In everything I do I try my best to get the details right.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>Luck, other people and events control most of my life.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>I am confident that I have the ability to succeed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

STEP 1
First use the Four point scale to indicate how TRUE (like you) or how FALSE (unlike you), each statement is as a description of you at this present time.

STEP 2
Next, indicate how much your participation in the Duke of Edinburgh’s International Award (DoEIA) has helped you in developing this quality about you.
in anything I want to do

11 I am effective in social situations. 0 1 2 3 0 1 2 3
12 I am calm in stressful situations. 0 1 2 3 0 1 2 3
13 My overall effectiveness in life is very high. 0 1 2 3 0 1 2 3
14 I plan and use my time efficiently. 0 1 2 3 0 1 2 3
15 I cope well with changing situations. 0 1 2 3 0 1 2 3
16 I cooperate well when working in a team. 0 1 2 3 0 1 2 3
17 I prefer things that taste sweet instead of bitter. 0 1 2 3 0 1 2 3
18 No matter what happens I can handle it. 0 1 2 3 0 1 2 3
19 I am capable of being a good leader. 0 1 2 3 0 1 2 3
20 I like being active and energetic. 0 1 2 3 0 1 2 3
21 What I do and how I do it will determine my successes in life. 0 1 2 3 0 1 2 3
22 I am open to new thoughts and ideas. 0 1 2 3 0 1 2 3
23 I try to get the best possible results when I do things. 0 1 2 3 0 1 2 3
24 When I apply myself to something I am confident I will succeed. 0 1 2 3 0 1 2 3
25 My future is mostly in the hands of other people. 0 1 2 3 0 1 2 3
26 I am competent and effective in social situations. 0 1 2 3 0 1 2 3
27 I can stay calm and overcome anxiety in almost all situations. 0 1 2 3 0 1 2 3
28 I am efficient and do not waste time. 0 1 2 3 0 1 2 3
29 Overall, in all things in life, I am effective. 0 1 2 3 0 1 2 3
30 When things around me change I cope well. 0 1 2 3 0 1 2 3
31 I am good at cooperating with team members. 0 1 2 3 0 1 2 3
32 I can handle things no matter what happens. 0 1 2 3 0 1 2 3
33 I solve all mathematics problems easily. 0 1 2 3 0 1 2 3
34 I am seen as a capable leader. 0 1 2 3 0 1 2 3
35 I like to get into things and make action. 0 1 2 3 0 1 2 3
36 I can adapt my thinking and ideas. 0 1 2 3 0 1 2 3
37 If I succeed in life it will be because of my efforts. 0 1 2 3 0 1 2 3
38 I try to get the very best results in everything I do. 0 1 2 3 0 1 2 3
39 I am confident in my ability to be successful. 0 1 2 3 0 1 2 3
40 I communicate effectively in social situations. 0 1 2 3 0 1 2 3
41 My life is mostly controlled by external things. 0 1 2 3 0 1 2 3
42 I am calm when things go wrong. 0 1 2 3 0 1 2 3
43 I am efficient in the way I use my time. 0 1 2 3 0 1 2 3
44 I cope well when things change. 0 1 2 3 0 1 2 3
45 Overall, in my life I am a very effective person. 0 1 2 3 0 1 2 3
Appendix III

The qualitative questions:

Focus group protocols:

Main research question:

**From the perspective of the learner**: What are the measurable learning effects on students of participation in the Duke of Edinburgh award scheme?

Secondary research questions:

- What are the effects of the Duke of Edinburgh awards on learning from your perspective?
- How can you explain these effects on student learning of the Duke of Edinburgh’s International Award program?
- How enduring are these effects on learning of the participants of the Duke of Edinburgh’s International Award?
- Have you noticed any significant differences in the learning effects on the types of participants in the Duke of Edinburgh’s International Award, e.g. in gender, cognitive abilities?
- How can you understand the differences in learning that takes place in a classroom and that which happens in the outdoors education context such as the Duke of Edinburgh’s International Award?

Survey questions:

- Are the survey questions clear?
- If not, why not, which did you not understand?
- Indicate what would help you to understand the survey questions better?
- Did you get stuck in any parts of the survey?
- How could the survey be improved?
- How easy was the survey to score?

Duke of Edinburgh parts and impacts – these can be used as thematic topics for discussion. What do participants think about?

- **i)** Service,
- **ii)** Skills,
- **iii)** Physical Recreation and
- **iv)** Adventurous Journey (recognising that at Gold level there is also a Residential Project requirement).

These parts of the award have 9 stipulated impacts:

1) Improved educational attainment;
2) Improved employability and sustainable livelihoods;
3) Improved health and well-being;
4) Increased participation in civic life;
5) Social Inclusion;
6) The environment;
7) Gender equality and the empowerment of women;
8) Reduction and prevention of violence, conflict resolution and peace-building;
9) Reduced reoffending (recidivism) rates

It is recognised that the focus groups will not be able to cover all of these research questions and topics.