The Animal Welfare Education for Children
Toolkit

A framework and guide to planning, evaluating and adapting interventions for children and young people

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Introduction

Until now there has been no guidance for those seeking to design, develop and evaluate interventions that aim to educate children and young people about animals and their welfare, prevent harm, and promote positive relationships through their interactions. This document provides a framework for understanding the purpose of evaluation and how it might be approached - from the intervention planning stage right through to reporting and sharing the findings. It will be most useful for those who are new to evaluation or wish to gather more comprehensive data to provide stronger impact evidence. It is also highly relevant to those working within humane education.

The toolkit builds on the findings from a Delphi study of 31 animal welfare education professionals, 27 of whom were UK-based (Muldoon & Williams, 2021a; 2021b). This study highlighted areas of practitioner consensus with respect to the goals and important components of successful interventions. However, there were differing views with respect to structuring an intervention so that it can be evaluated effectively, and also recognition that measuring impact is a significant challenge for most animal welfare organisations. Illustrative quotations from our participants are used throughout the toolkit to highlight their perspectives. All names are pseudonyms.

> " [Animal welfare education] is often delivered and designed without the necessary strategic planning and outcome mapping. It's also a highly under evaluated field with evaluation on the impact of an intervention on human behaviour change virtually non-existent. "
>
> (Emma)

The core aim of this document, which accompanies an online toolkit **(see References and Appendix 1)**, is to support practitioners to develop strong evidence-based practice. The online version (a more responsive resource that will be monitored and updated) reproduces the guidance here, but also includes a worked through example and details of the measures we recommend. The toolkit provides some simple guidance on the steps organisations can take to plan, evaluate, adapt, and report on, their intervention work. It also provides links to a range of resources that have been developed to support practitioners with their evaluation activities. Importantly, it highlights the processes involved, providing a step-by-step guide to ensuring high quality evaluation and, consequently, a comprehensive understanding of an intervention's impact. This work has been funded by the Economic and Social Research Council and has been undertaken in partnership with the Scottish Society for the Prevention of Cruelty to Animals.

What is an 'animal welfare education (AWE) intervention'?

Animal welfare education/cruelty prevention teams carry out a range of activities with the ultimate aim of enhancing human treatment of animals, as the quotation below illustrates. They may choose to focus on helping others develop their knowledge, understanding, skills, attitudes, empathy and perspective-taking, or reflect more fully on their own behaviours and/or moral and ethical values. From our perspective, an 'intervention' is a structured, planned and integrated set of activities designed to have specific types of impact on recipients. Ideally, those developing an intervention will describe it in detail, identify the goals and intended impact of each activity, and illustrate how their input will effect change.

> " We want to encourage compassionate and empathetic behaviour towards all animals, make sure everyone knows how special and important the human-animal bond can be, and inspire the next generation so that we can prevent animal cruelty and reduce the need for us to rescue and rehabilitate animals in the future. "
>
> (Scottish SPCA website, 2020)

Why is it important to evaluate interventions?

If interventions are carried out without due attention to what is working well and what is not, it is impossible to establish with any certainty if the work being undertaken is successful and, if not, what needs to be done to ensure success in the future. The practitioners in our study described the enormous potential of animal welfare education, moving beyond just improving life for animals. To ensure this potential is achieved and to persuade others of its significance, it is essential that organisations clearly demonstrate the value and effectiveness of their work. This is particularly critical as we enter an era where priorities are changing, competition for funding is likely to be stronger than ever and sources of financial support more limited. There are a range of benefits associated with systematically evaluating an intervention. These include:

(a) providing evidence of impact, demonstrating if, how, and when (under what circumstances) an intervention has been successful; highlighting the specific changes that children/young people experience as a result of participating;

(b) pinpointing where improvements need to be made, ensuring an intervention is the best it can possibly be;

(c) helping to show others what has been achieved, stimulating support for the cause, and

(d) allowing others to replicate successful intervention and evaluation work, leading to wider reach and impact

Evaluation is most effective when it involves a continuous reflective process and not a one-off assessment. There should be opportunities built in for all those involved to self-evaluate; systematically documenting and reflecting on what they are doing, what is working well and why, and what problems are being encountered along the way. It also involves refining or making changes to elements that are not working smoothly or achieving intended outcomes. Piloting an intervention and evaluation on a small scale is therefore extremely useful prior to rolling out the full programme. The reflective process can be informal, focusing on everyday experiences of working with children and young people, or more formal and comprehensive. However, it is important to produce robust evidence of effectiveness.

Children/young people may engage well, but this does not necessarily lead to improvements (e.g., in perceptions of animals, knowledge, understanding, skills, attitudes, empathy, or behaviour).

Different types of evaluation

|Outcome or impact evaluation

This type of evaluation assesses the results of the intervention; changes brought about by the programme, activity or series of sessions. It entails collection and analysis of data relating to the outcomes that are expected; the areas the intervention is targeting and trying to improve. The findings will demonstrate if the intervention is successful in achieving those outcomes - changes in children and young people's thinking, attitudes, behaviour, etc. It is also useful to examine if the intervention only has an impact on certain people. This makes the decision about **what** to measure and **how** to measure it very important, and is an area that AWE professionals identify as a key challenge in the field. The measures chosen need to strongly reflect the content of the intervention. **Some examples of validated measures to consider are provided in Appendix 4.** If there is an expectation that the intervention is likely to have greater/less impact on some children/young people than others, it is useful to include measures that will capture this differential impact (e.g., age, gender, ethnicity, locality). However, organisations will not be able to collect UK data that could lead to individuals being identified, and any data collected needs to be GDPR compliant; an issue that must be addressed when tracking children.

Outcome/impact evaluations can vary from a single group pre-/post-test design to a more comprehensive approach that compares what happens for those participating in the intervention with a group who have not taken part, and examines if any resulting changes have longevity. To enable effective comparison, a 'control' group needs to closely represent the group who have participated. This is called a 'matched control'. A 'waiting list control' may be used; a group that is due to take part in the intervention at a later date. An examination of change over time (i.e., collection of data at different points following the intervention) requires careful management to ensure each participant's data are linked. The more comprehensive the evaluation design, the more likely it will be that observed changes can be attributed to the intervention itself, rather than other things that are happening simultaneously. Other methods can also be used to assess impact, from brief questionnaires/interviews with participants about the experience of taking part, through to comprehensive case studies that gather evidence from those directly involved and the people connected to them. Teachers (in school-based interventions) or parents/caregivers in more tailored individualised interventions, are good examples.

|Process evaluation

A process evaluation is quite different to an outcome evaluation, but undertaken at the same time. It is vital for making improvements to interventions and determining future priorities. It is concerned with how an intervention is working, if it is being delivered as planned, and identifying strengths and weaknesses in content and delivery. If a standardised approach has not been followed in certain circumstances, it is important to document and reflect on the reasons for this and any adaptations that have been made. Process evaluation seeks to capture the experiences of those delivering the intervention to identify what is working well, and aspects that are, or may prove to be, problematic. A range of methods is typically used to assess ways in which an intervention is working and why it might work better in certain settings or with particular groups. This is helpful in enabling optimal targeting of particular interventions, and highlighting which aspects need to be changed for other groups. A key component of a process evaluation is the construction of a logic model that explains how the intervention is thought to generate outcomes (Public Health England, 2018) – see Section 2.

An overview of the evaluation process

Ideally, an intervention and accompanying evaluation should be planned together from the outset, with formal opportunities to reflect on, assess and document progress built in throughout. Figure 1 highlights different facets of the evaluation process; outlined in greater detail in the following sections. There is an obvious chronology to the first three steps that show what needs to be done in order to develop an outome or impact evaluation. Facets 4 to 7 reflect a series of steps too, but these really show how to produce high quality intervention and evaluation and are crucial to carrying out Steps 1 to 3 well. Facet 6 will form a process evaluation that is essential to the future development of animal welfare education and should feed in to Facet 7.

Figure 1: The evaluation process: the 'what' and the 'how'

What should I do?

1 2 3

Describe intervention, aims & expected outcomes

Create a logic model of change processes

Decide on type of evaluation

3.1 Monitor reach & engagement

3.2 Capture experiences

3.3 Gather robust evidence of change & impact

How should I do it? (CoRES)

4 — **Co**llaborate/identify expertise & decide on shared values, outcomes, & approaches

5 — **R**esearch, adapt & develop appropriate resources, delivery methods & assessment tools

6 — **E**stablish what is/is not working well; make necessary adaptations/refinements and re-assess

7 — **S**hare findings & issues regarding future implementation

What should I do?

This section outlines three key stages in the evaluation process

- Describing the intervention, aims, and expected outcomes
- Creating a logic model of change processes
- Deciding on the type of evaluation

1 Describe intervention, aims, and expected outcomes

An essential first step when developing an evaluation is to describe exactly what the intervention entails. Who does it target and why? What activities are involved? Who delivers it, how, and where? What are its key features and specific goals (both short and long-term)? What exactly are you teaching or promoting (e.g., what kind of knowledge, attitudes, skills, etc)? What changes are anticipated in children/young people as a result of participating?

This may well be a straightforward process if the intervention has been developed to improve one aspect of children's interactions with animals (e.g., build knowledge of welfare needs). However, if it is more complex, has multiple facets and goals, or is adapted to the specific needs of different recipients, it may be more difficult to describe them in a way that fully captures what you are doing. This can be a barrier when trying to communicate with others (e.g., funders, stakeholders) about the work that is being carried out. The description should be detailed but not overly complex. It may help to separate out different elements and highlight how these are designed to produce specific outcomes. This will form the basis of a logic model, described in the next section.

It is useful to adopt a structured approach to document the whole process of evaluation. Using templates often helps to save time. The Template for Intervention Description and Replication framework (Hoffman et al., 2014) is a useful resource for this initial part of the process, and provides a checklist of different elements to consider. The accompanying guide provides an explanation and elaboration of each item:

- The intervention name
- The rationale or theory underpinning the intervention
- Physical materials provided to participants
- Procedures or activities involved in the intervention
- Details of who delivers each aspect of the intervention
- The mode of delivery (e.g., face to face, in groups or individually, online)
- Where the intervention takes place
- How often the intervention is delivered and over what period
- Whether any aspect of the intervention is tailored to certain participants

We have designed a template specifically for describing an animal welfare education intervention. You can find this in Appendix 2.

Describing an intervention in detail is not only important for evaluation, it also allows organisations to communicate more effectively with schools, giving them a clear idea about what is being offered and how it might fit with other areas of the curriculum. It is important to acknowledge that in the process of reflecting on and refining an intervention, this description will need to be revised. It is useful to document changes and show the evolution of a programme, highlighting for internal *and* external use, knowledge that has been gained about (a) how to intervene most successfully, and (b) how to overcome any obstacles that are typically encountered.

"I would say MOST interventions are rather superficial or else cognitive in nature. They try to change attitudes but not teach actual behaviours. The most effective I've seen teach actual skills, practice, and provide environmental supports that are ongoing (parents, teachers)."

Amanda

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2 Create a logic model of change processes

Having described the intervention and established who it is targeting, what it involves, and the specific aims and anticipated outcomes, the next step is to identify how and why the intervention works, through examining:

(a) the mechanisms of change - how each aspect of the intervention leads to specific outcomes, and

(b) the factors that might influence how well the intervention works – for example, does the context or style of delivery matter?

A logic model is a simple way of mapping out everything that will take place in an intervention and the specific improvements that it has been designed to achieve. The intervention may have been developed based on a theory of behavioural change where the mechanisms are specified, but if not, the Evidence Based Practice Unit (EBPU) and Evaluation Support Scotland provide useful step-by-step guides and interactive templates to help create a logic model and map out change processes:

https://www.annafreud.org/media/5593/logic-model-310517.pdf
http://www.evaluationsupportscotland.org.uk/resources/252/

As the EPBU guide points out, it is good practice to consider the academic literature when determining likely mechanisms.

The list below shows the main changes the animal welfare education professionals in our study would like to see in children and young people as a result of participating in one of their interventions. There may also be other outcomes that would need to be included in the logic model.

1. Improved knowledge and understanding of animal welfare needs and issues.
2. Greater recognition of animal sentience.
3. Improved skills in relation to interpreting animal behavioural signals and responding appropriately, handling animals correctly (fewer intrusive/ forceful/rough handling behaviours), recognising poor welfare and cruelty, and knowing how to behave safely around animals.
4. Improved empathy and compassion towards animals.
5. Improved empathy towards others generally (improvement in pro-social behaviours).
6. Greater recognition of responsibility and an appreciation of their own impact on animals – increased self-awareness and self-reflection, and feeling more empowered to take action.
7. Being more respectful of, and improved attitudes towards, animals
8. Sustained behavioural change and reduced incidence of children harming animals or being harmed by animals.

An example of a logic model used for an animal welfare education intervention is included in Appendix 3.

"There is no point developing programmes and engaging materials that get great initial feedback from participants, and self-reported intention to make better choices, that then do not translate to a change in their behaviour when they get back into their 'real lives'."

Suzanne

3 Decide on the type of evaluation

Evaluation is often viewed as a one-off activity that happens at the end of a project. However, the best quality assessments of an intervention's success have self-evaluation built in from the outset and continue as long as the intervention or service is being delivered. If the intervention forms part of a rolling programme, then between each phase, the findings from this process should lead to improvements in the next. It is important to continue using the resources or methods that have been found to work effectively and only adjust/refine areas that have not worked well.
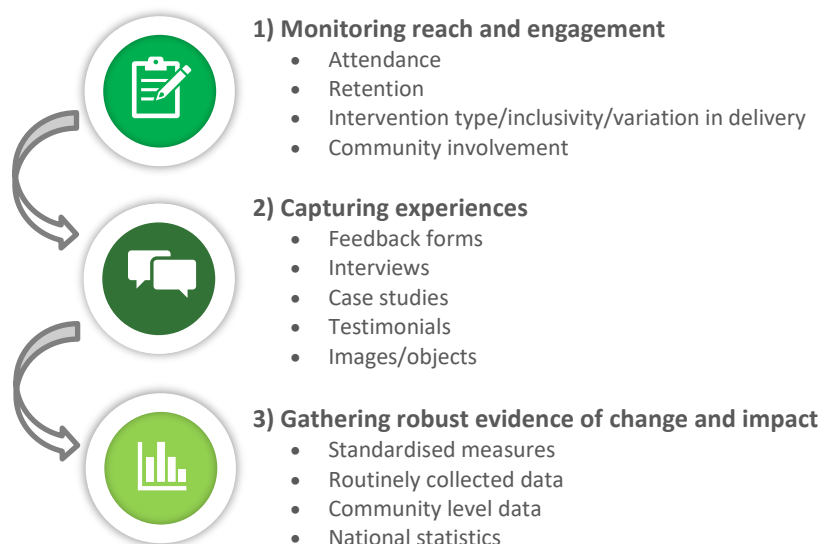
As Figure 2 highlights, there are different ways of evaluating interventions; the decision as to which type is used often depends on the availability of time, resources, the skills of the team and the number of dedicated staff. We have drawn a broad distinction between 'outcome/impact' and 'process' evaluation. The latter is the specific focus of Section 6. Here, we focus on the former that can involve:

(a)   a monitoring process, maintaining an accurate record of who is involved in the intervention, and the degree to which it is engaging participants,

(b)   finding out how participants feel the intervention has helped them, perhaps carrying out some case studies to gain an in-depth understanding of the intervention's impact and how it resulted in change, and/or

(c)   assessing changes that have occurred in participants' knowledge, thoughts, feelings or behaviours using robust reliable measurement tools.

Figure 2: Different ways of carrying out an impact/outcome evaluation

1) Monitoring reach and engagement
- Attendance
- Retention
- Intervention type/inclusivity/variation in delivery
- Community involvement

2) Capturing experiences
- Feedback forms
- Interviews
- Case studies
- Testimonials
- Images/objects

3) Gathering robust evidence of change and impact
- Standardised measures
- Routinely collected data
- Community level data
- National statistics

A comprehensive evaluation will include all of the above. However, no matter which type is used, information needs to be collected and documented systematically. Templates can help to capture everything that happens throughout the process. It is also important to recognise limitations, focusing first on establishing good quality systems for reliable monitoring and reflection. Once those are working well, evaluation can be extended to include the gathering of data that sheds more light on impact.

"To be able to 'compete' with other subjects and gain credibility for the subject in its own right, interventions need to be structured in line with other academic subjects... Effective monitoring and evaluation of the course is dependent on structure."

Anne

3.1 Monitoring reach and engagement

Monitoring is an essential and basic form of evaluation. It is important to document all the work that is carried out as part of an intervention and how many people have taken part. All organisations should have some data of this kind available, so it is really just about putting in place a system to capture this information accurately so it is easy to report.

The following are types of information you might collect as part of a monitoring process:

- Attendance rates – the number of children and young people taking part in an intervention.

- Retention rates – the length of time children and young people are involved in the programme, and the extent to which they remain engaged.

- The type of intervention – whether it is 'universal' where everyone receives the same input, or 'targeted', including the distinct characteristics of those designed for particular individuals or groups. If there are elements of both, this should also be documented.

- Inclusivity – if this information is available to you, the backgrounds of the children and young people taking part in the intervention and the extent to which particular groups are involved (e.g., those who are more vulnerable, are at high risk of causing harm to animals, have special educational needs, live in a disadvantaged area, or are in local authority care).

- Variation in delivery – the degree to which it is tailored to particular groups or individuals.

- Community involvement – who else in the local community is linked with the intervention either directly or indirectly (e.g., families, schools, youth offending teams, colleges, veterinarians, therapy animal organisations).

The degree to which participants are engaged should also be monitored and documented. This may be based on observations of those delivering the programme, or more formal assessments of engagement via interview or a written questionnaire about the experience of participating. A way to record all information collected should be decided at the outset, so that everyone involved is clear on how and what to document.

"I believe the children need to complete activities and not just be talked to for them to engage properly with the subject. We've had very positive feedback from schools who have taken part in our school award as they've seen a difference in the children's attitudes towards animals in their class."

Jenny

3.2 Capturing experiences

Finding out how people feel about an intervention, and the impact they feel it has had on them is extremely useful. This 'qualitative' evidence helps to bring the intervention to life when describing it to those unfamiliar with the programme. Depending on how comprehensive this process is, it can also shed light on change mechanisms, thus allowing re-evaluation of initial logic models and assessment as to whether the intervention has worked in the ways anticipated or in a different manner.

Participants can be asked open-ended or close-ended questions relating to how they think the intervention has changed their thoughts, feelings or intended behaviours. However, questions should not lead participants into responding in particular ways. Instead, they should allow those responding to express a view that the intervention did not result in change for them personally. This is also useful information that needs to be incorporated in any evaluation – when things do not work, as well as when they do.

Most organisations collect data like this already, but if not, it is relatively easy to implement procedures to do so. The following represent different ways in which participants' perceptions and experiences can be accessed:

- Feedback forms – given to participants at the end of the intervention, capturing how much they enjoyed taking part, if and how they feel the intervention has had an impact on them, and any recommendations they have for changes. This can include rating scales as well as open-ended questions for participants to provide written comments.

- Case studies – personal stories about ways in which the intervention has impacted a child's or young person's life can be captured through interviews, participants' writing, drawing or photographs, or through videos. Case studies are stronger if they include a range of perspectives, i.e., the child, their teacher, a parent/caregiver, etc.

- Testimonials – accounts from other stakeholders (such as parents, carers, peers, teachers, youth leaders or other organisations) about the impact of the intervention; how it has made a difference and to whom. These could be gathered in person or drawn from social media, such as tweets about the success of a project in different settings.

- Images/objects – drawings or photographs of young people taking part in your intervention, objects, posters or other outputs that have been created throughout the intervention process.

It is vitally important that organisations provide detailed information for participants and stakeholders about the type of data they will be collecting and what they will ask those involved to do; obtaining consent where necessary (especially if images of participants are to be used). This type of evidence provides compelling cases and clear examples of children's and young people's experiences. However, it is not possible to generalise the findings to the population as a whole.

3.3 Gathering robust evidence of change and impact

Capturing the wider *impact* of an intervention requires robust evidence of change, and this was considered to be one of the most significant challenges facing animal welfare education specialists. This type of evaluation focuses on objectively assessing the outcomes and mechanisms of change that have been identified in the logic model.

This is the most intensive type of evaluation, requiring the most planning, resources and skills, which perhaps explains why many organisations do not carry out evaluation of this kind on a regular basis. Some practitioners working with children and young people are not familiar with the assessment tools and the process of collecting and analysing data of this kind. However, it is the most powerful demonstration that an intervention is making a difference; enhancing the knowledge, attitudes, skills and/or behaviours of those participating. Some funders also require this type of evidence in order to invest in an intervention or service. It should be noted that some outcomes are easier or quicker to achieve than others.

Types of information that might be included:

- Standardised measures – usually questionnaires designed to measure the outcomes or change mechanisms you are interested in, but may also include other tools like observations or interviews.
- Routinely collected data – often relevant information is already being collected by other people (in the local community and nationally). Accessing this information can provide valuable evidence of impact. This may include records of animal cruelty cases/offences, the number and type of phone calls to rescue charities from children, the extent of positive behaviour examples, such as charitable work by children or schools.

Many organisations are keen to use published standardised measures, but are unable to access them or do not know how they should be used/ analysed. **Accordingly, we have gathered together some examples of good quality measures that can be used freely with children and/or young people to capture some of the outcomes that animal welfare education professionals want to see (Appendix 4).**

Depending on the goals of the intervention, a pre-test, post-test, and delayed post-test can be used to demonstrate immediate and longer-term impact on participants. However, it is important to note that collecting evidence before and after an intervention cannot tell you with confidence that it is the intervention that has caused a change. Something else may be responsible. To establish this, as we indicated earlier, it is very helpful to compare the children who are participating with another group who are not (a control group). Ideally, this would be a group who are on a waiting list to start the intervention, but if not, the control and intervention groups need to include participants with similar characteristics in order to make them comparable.

"Having recently measured our own education pet care talks we were able to measure knowledge, attitudes and empathy and can show a significant increase in all areas. Knowledge was the highest and we are working on improving the other two."

Maria

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How should I do it?

This section outlines how to ensure high quality animal welfare education and evaluation through CoRES:

- **Co**llaboration/shared understanding and approaches
- **R**esearching thoroughly appropriate resources, methods and tools
- **E**stablishing what is/is not working though continual reflection, adaptation and refinement
- **S**haring learning (positives and negatives) beyond the organisation

4 Collaborate/identify expertise and decide on shared values, outcomes, and approaches

For an intervention and evaluation to be rolled out successfully, it is important that everyone involved has an opportunity to contribute to the decision-making process. This way, as decisions are made, the whole team will develop a shared understanding of all aspects we have discussed thus far.

Given the varied backgrounds of animal welfare education professionals, there is a wealth of experience and skills to draw on. Therefore, at the outset, it is good to draw a team together and identify expertise. At this point, it is also helpful to identify where extra support is needed.

Evaluation Support Scotland's 'health check' template below may help in the process of reflecting honestly on the skills and knowledge of the team in relation to:

(1) Setting outcomes and indicators
(2) Collecting evidence
(3) Acting on learning
(4) Analysing and reporting

Self-evaluation health check template:
http://www.evaluationsupportscotland.org.uk/resources/414/

Where there are identified deficiencies in skills, experience or knowledge within the team, a strategy needs to be developed to secure help at the appropriate time. It is good to establish those connections at the outset, so that those providing support are advised well in advance and have the opportunity to contribute their thoughts early on.

It is also valuable to discuss approaches to self-evaluation and what tools, techniques and templates the team will use to reflect on and document how things are progressing. Reflective practice can be undertaken in many different ways and the documents below provide some examples.

Reflective practice resources:
http://evaluationsupportscotland.org.uk/resources/444/

Capturing casual moments template:
http://www.evaluationsupportscotland.org.uk/resources/355/

It is important that everyone in the team has an understanding of roles and responsibilities and who to contact for support.

One area that may be worth careful consideration, as there was a lack of consensus in our study, is the language used to both describe and deliver the intervention (terminology and definitions). 'Harm' may be more appropriate to use than 'cruelty' for example. This issue would benefit from attention in the wider community of AW educators (Muldoon & Williams, 2021a; 2021b).

Response to a question concerning problems associated with evaluation

"Understanding and agreement on what we should be measuring. Agreement on meaningful criteria. How to report and illustrate the findings in a helpful and accessible way."

Richard

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5 Research, adapt and develop appropriate resources, delivery methods and assessment tools

It is essential that intervention and evaluation resources, delivery methods and assessment tools are age-appropriate, child/adolescent-friendly, engaging, non-discriminatory, unambiguous, and closely relate to the specific goals and anticipated outcomes of the intervention. Many AWE teams develop their own materials, multi-media resources, computer games, and robotics, to support delivery, continually updating them to ensure they are still relevant and appealing. While this is critical, it is also valuable to identify which materials have worked well. These should be retained and the same process applied to examining how different delivery methods have been received. There is much emphasis now on interactive and peer learning, and many professionals felt it was important not to just talk to (at) children, but to ensure that sessions equip them with skills and a sense of responsibility, not just knowledge. Showing children the wonder of animals and inspiring them to find out more were also viewed as key to promoting change in behaviours.

Key areas that concerned professionals in our study were how to gather robust evidence of change (particularly through use of survey methods), how to assess if change is sustained in the longer-term, and how to measure behavioural outcomes. The first step towards determining what to measure is the identification of clear outcomes. Then specific 'indicators' can be identified. These are "things you measure to find out whether you have made the differences you hoped to make (your outcomes). You need to look at all of your outcomes and come up with indicators for each." (Evaluation Support Scotland). The document below provides guidance on this process.

Working out what to measure:
http://evaluationsupportscotland.org.uk/resources/429/

One of the problems facing practitioners is finding appropriate measures that align with the work they are carrying out. Often measurement tools used by academic researchers are not freely available or are difficult to locate. Accordingly, we have drawn together some published standardised measures of the following dimensions of child-animal interactions in **Appendix 4.** Detailed descriptions and questions are provided online.

(1) Pet ownership and attachment
(2) Knowledge, attitudes and beliefs about animals
(3) Empathy and socio-emotional measures
(4) Human-animal interaction behaviours

It is possible to design new measures for inclusion (particularly useful if the aim is to enhance specific areas of knowledge or assess if children know what to do in certain situations). These should be piloted to ensure they are easy to respond to. With survey items, it may be possible for individual items to be grouped to form a 'scale' that can aid analysis. Another key challenge is the statistical analysis of data. We have provided some guidance on this online.

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6 Establish what is working well and what is not; make necessary adapt-ations/refinements and re-assess

Close attention is required throughout the whole evaluation process to the aspects that are working well and those that need improving or removing altogether. This is the goal of a process evaluation and is vital for making decisions about how to move forward to ensure interventions are high quality and as successful as they can be. It is essentially a process of analysing different elements of the intervention, and being able to reflect honestly on the skills, knowledge, materials and methods used. The outcome evaluation contributes to this by demonstrating exactly what has changed and what has not as a result of the intervention, but cannot tell you why or how it led (or failed to lead) to change. The logic model and the theory of change underpinning the intervention need to be examined and perhaps refined. Practitioners will undoubtedly find that things don't always go according to plan and it is important to capture this and consider how easy the intervention would be to replicate another time.

Many of the professionals in our study felt it was extremely important to be flexible and adapt to the different groups they work with. This is understandable and easy to evaluate if the flexibility and adaptations are planned in, but not so easy if changes are made in the process of delivering. For evaluation to be useful, it is important that any changes made in practice (that may be necessary) that deviate from planned activities/approaches are documented, including reasons for change, and taken back for discussion with the team and/or the wider community of AWE professionals. It is important that no one feels like they have failed if they had to deviate from the plan. It might be useful to identify core aspects of content and delivery that must be implemented in the same way, allowing for flexiblity in other areas. Evaluation Support Scotland has a range of templates to help with the documentation of changes or reflections on current practice (see Section 4).

Change record template:
http://www.evaluationsupportscotland.org.uk/resources/409/

There are various ways of ascertaining what is working well and what is not. Below are some questions that may prove useful when examining data and reflections on each element of the intervention: delivery, content/resources, monitoring data, qualitative data, quantitative data.

(1)   To what extent were the aims achieved?
(2)   What problems were encountered or can be identified?
(3)   Is it possible to identify what led to success or lack of it?
(4)   Does it work better for certain groups than others?
(5)   What are the next steps? What is missing?

Any subsequent changes to the intervention should be based on the accumulation of evidence. If something is working well, this should continue and decisions will need to be made regarding lack of success.

"We can assume with programmes not utilising monitoring and evaluation processes, that required strengthening adjustments to output are not frequently applied."

Emma

7 Share findings and issues regarding future implementation

Work undertaken in a process and outcome/impact evaluation should lead to a sound understanding of the intervention; the effects it has had and not had, what has worked well (ideally knowing why and how), and what elements have not proved successful in achieving specified goals. While it is wonderful to find that your intervention has been successful, it is rare for one, particularly in the early stages, to be wholly successful. A great deal of time, energy, resources, funds and passion are invested in developing an intervention. Therefore, it is difficult to find out, and also admit, that it is not working well, especially when external funding has been secured, or is required for further work. However, we only ever learn through things not working as planned, and it is important that within this field, that there is recognition of the challenges and openness about failures as well as successes. This is the only way that AWE can prosper in the future. This is an issue for academic research too, where papers are only submitted for publication when they find positive results. We need to learn from the negative and null results too.

It is important that the findings/results are presented clearly; some advice on how to present data is provided in the online toolkit. To help share elements of work that have been successful and challenging, with a view to making significant differences to children, animals, the environment and society, that professionals feel is possible through AWE, it is useful to draw together all the learning from the process of designing, delivering and evaluating. The template below provides a focus for final reflections.

Reporting template:
http://www.evaluationsupportscotland.org.uk/resources/232/

- What we expected to do
- What we actually did
- What difference we actually made
- Challenges and changes
- Learning for the future

Opportunities to share these findings and reflections with the broader community should be sought. This will help others to focus on the key issues and evaluate their own practices in a similar manner. It is also useful to situate any discussion about moving forward in the context of new developments in scientific understanding of animal cognition, behaviour and sentience, that should feed into intervention programmes. There may also be developments within education that future interventions could link with successfully.

"The sector could do more to work together in targeting a broader audience and ensuring messages are consistent and constant. The sector will not see the benefits of their interventions for 5-10 years, and then it will be hard to attribute to any one programme (if we all work independently)."

Siobhan

Appendix 1: The structure of the online toolkit

Animal Welfare Education for Children Toolkit
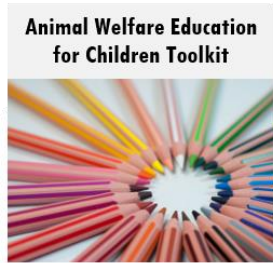
The Animal Welfare Education for Children Toolkit | The University of Edinburgh (Muldoon & Williams, 2021)

- Introduction to the toolkit
- How to use & cite the toolkit
- The evaluation process
- Evaluation measures library

- Overview & infographic
- Outcome & process evaluation
- What should I do?
- How should I do it?
- Glossary of key terms
- References & resources

- 1: Describe intervention
- 2: Create a logic model
- 3: Decide on type of evaluation
- 4. Collaborate/ expertise
- 5. Research, adapt, develop
- 6. Establish what is/is not working
- 7. Share findings & issues

- 3.1 Monitoring reach/ engagement
- 3.1 Capturing experiences
- 3.3 Gathering robust evidence

- Pet ownership & attachment measures
- Knowledge, attitudes/beliefs about animals
- Empathy & socio-emotional measures
- Human-animal interaction behaviours

Appendix 2: Template for describing an intervention

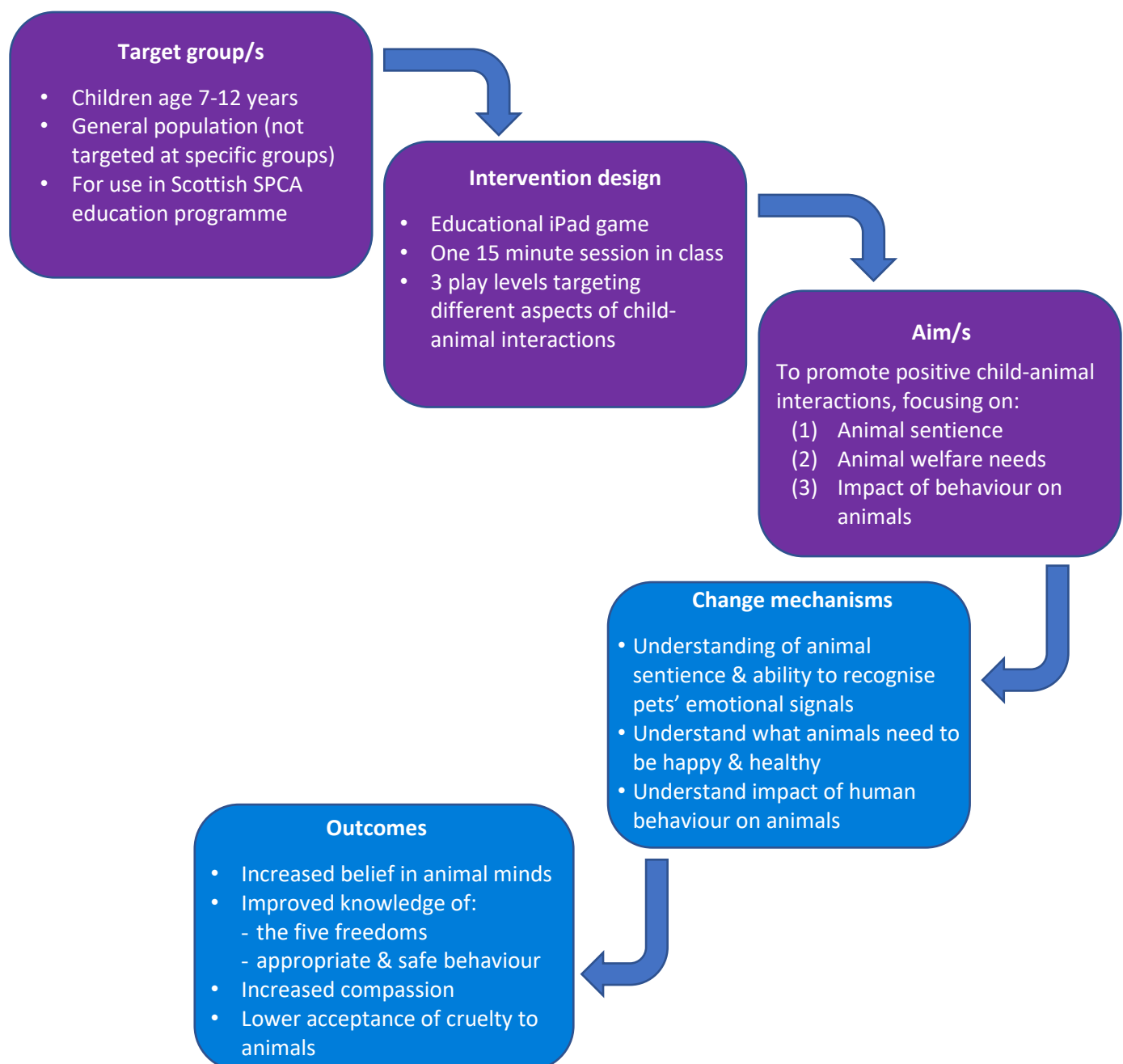**Checklist for providing a detailed description of an intervention**

1 BRIEF NAME
   Provide a name and/or phrase that describes the intervention

2 RATIONALE FOR THE INTERVENTION
   Describe the reasons why the intervention is required and any theory underpinning its development

3 TARGET RECIPIENTS
   Describe who the intervention is for and why, and any rationale for targeting specific groups

4 SPECIFIC GOALS OF THE INTERVENTION
   Describe the anticipated outcomes, the changes the intervention should lead to in children/young people

5 COLLABORATION AND LINKAGES
   Describe if and how the intervention has been developed in collaboration with key stakeholders, and whether it links with other work (e.g., in schools, have teachers been involved and does it link to specific parts of the existing curricululm/current priorities?)

6 CONTENT OF THE INTERVENTION
   Describe the materials or resources that will be used in the intervention, including information that will be given to schools, parents/caregivers and children/young people, as well as the activities that will be involved

7 WHO WILL DELIVER THE INTERVENTION
   Describe the roles of all those involved in delivering each aspect of the intervention

8 DELIVERY PROCEDURES
   Describe how the intervention will be delivered and the mode/s of delivery, including whether it will be delivered to groups or individually

9 LOCATION
   Describe where the intervention will be delivered, including any constraints the location presents

10 TIMING
   Describe the number of times the intervention is to be delivered and over what period of time (number and sequence of sessions, their duration or intensity)

11 TAILORING
   Describe any plans to tailor any aspects of the intervention for specific groups or individuals (provide details of what, why, when and how it will be adapted)

12 MONITORING PROCEDURES
   Describe and provide a link to documentation of the extent to which the intervention has been delivered in the ways intended (adherence or fidelity to the original plans)

13 RISK ASSESSMENT
   Describe any potential issues that might arise and how these will be dealt with

Provide details of where information relating to each part of the intervention is documented

Appendix 3: An example of a basic logic model for an AWE intervention

Figure 3: A logic model for a pet welfare intervention (adapted from Hawkins et al., 2019).

Target group/s

- Children age 7-12 years
- General population (not targeted at specific groups)
- For use in Scottish SPCA education programme

Intervention design

- Educational iPad game
- One 15 minute session in class
- 3 play levels targeting different aspects of child-animal interactions

Aim/s

To promote positive child-animal interactions, focusing on:
(1) Animal sentience
(2) Animal welfare needs
(3) Impact of behaviour on animals

Change mechanisms

- Understanding of animal sentience & ability to recognise pets' emotional signals
- Understand what animals need to be happy & healthy
- Understand impact of human behaviour on animals

Outcomes

- Increased belief in animal minds
- Improved knowledge of:
  - the five freedoms
  - appropriate & safe behaviour
- Increased compassion
- Lower acceptance of cruelty to animals

Appendix 4: Measures relating to different elements of child-animal interactions

The majority of measures listed below are standardised scales that have been validated for use in surveys/questionnaires and can be used in a UK based context. There are also some measures that can be used within qualitative work, in interviews with children or parents, or in more play-based sessions with younger children. If using measures developed in other countries, it is advisable to assess/pilot these, and wording may need to be adjusted to ensure the questions make sense to participants. Details of the measures/scales included in this section are provided in our online toolkit:

Evaluation measures library | The University of Edinburgh

Table 1: Pet ownership and attachment

Name of measure/scale	Reference and/or website
Pet Ownership (4 items)	Muldoon, J. & Williams, J. (2009) *Promoting a 'Duty of Care' Towards Animals Among Children and Young People: The development of the SAPS (Short Attachment to Pets Scale) for the Health Behaviour in School-aged Children (HBSC) Study*. CAHRU: The University of Edinburgh. Marsa-Sambola, F., Muldoon, J., Williams, J., Lawrence, A., Connor, M. & Currie, C. (2016). The Short Attachment to Pets Scale (SAPS) for children and young people: Development, psychometric qualities and demographic and health associations. *Child Indicators Research, 9*(1), 111-131.
Comfort from Companion Animals Scale (CCAS) (13 items)	Zasloff, R.L. (1996). Measuring attachment to companion animals: A dog is not a cat is not a bird. *Applied Animal Behaviour Science 47*, 43-48. PII: 0168-1591(95)01009-2 (core.ac.uk)
Short Attachment to Pets Scale (SAPS) (9 items)	References as per Pet Ownership measure above.
Attachment Questionnaire for Children (assesses attachment style, not attachment to pets) (1 item)	Muris, P., Meesters, C., van Melick, M. & Zwambag, L. (2001). Self-reported attachment style, attachment quality, and symptoms of anxiety and depression in young adolescents. *Personality and Individual Differences, 30*, 809-818. Attachment Questionnaire for Children	The National Child Traumatic Stress Network (nctsn.org)

Table 2: Knowledge, attitudes and beliefs about animals

Name of measure/scale	Reference and/or website
Children's Attitudes toward Animal Cruelty (CAAC) (11 items)	Hawkins, R.D. & Williams, J.M (2016). Children's Beliefs about Animal Minds (Child-BAM): Associations with positive and negative child–animal interactions. *Anthrozoös, 29*(3), 503-519.
Children's Beliefs about Animal Minds (Child-BAM) (5 questions relating to 8 animals)	Hawkins, R.D. & Williams, J.M (2016). Children's Beliefs about Animal Minds (Child-BAM): Associations with positive and negative child–animal interactions. *Anthrozoös, 29*(3), 503-519
Knowledge of farm animals' welfare needs	Hawkins, R., Ferreira, G., & Williams, J. (2019). The development and evaluation of "Farm Animal Welfare": An educational computer game for children. *Animals*, *9*(3), 91. [(17) (PDF) The Development and Evaluation of 'Farm Animal Welfare': An Educational Computer Game for Children (researchgate.net)](researchgate.net)
Knowledge of pet animals' welfare needs	Muldoon J.C., Williams J.M. & Lawrence A. (2016). Exploring children's perspectives on the welfare needs of pet animals. *Anthrozoös, 29*(3), 357-375.

Some key points relating to the measurement of knowledge:

- It is vitally important that the measures employed to assess whether children's knowledge has improved following an intervention are directly linked to what has been taught (i.e., if the intervention has only taught children about the needs of a particular species, then the questions must only cover what has been introduced about that species.

- If children have been introduced to a range of needs in different animals, the questions asked should reflect this. It cannot be assumed that knowledge will generalise either beyond what has been taught, or to species that have not been introduced in the intervention, unless this is a learning goal.

- Ideally, an intervention would make clear the distinction between 'universal' needs of all animals, and species-specific information. The papers included in the table above provide examples of how to word questions that assess knowledge, and can be found in the online toolkit.

- Any intervention should make the learning objectives clear and explain why certain animals are being included or excluded.

Table 3: Empathy and socio-emotional measures

Name of measure/scale	Reference and/or website
Children's Compassion toward Animals (CCA) (5 items)	Hawkins, R.D. & Williams, J.M (2016) Children's Beliefs about Animal Minds (Child-BAM): Associations with positive and negative child–animal interaction. *Anthrozoös, 29*(3), 503-519.
Index of Empathy for Children and Adolescents (22 items)	Bryant, B.K. (1982). An index of empathy for children and adolescents. *Child Development*, 413-425. An index of empathy for children and adolescents (semanticscholar.org)
Kidscreen 10 Quality of life measure (10 items)	Ravens-Sieberer, U., Gosch, A., Rajmil, L., Erhart, M., Bruil, J., Duer, W., Auquier, P., Power, M., Abel, T., Czemy, L., Mazur, J., Czimbalmos, A., Tountas, Y., Hagquist, C., Kilroe, J. & the European KIDSCREEN Group. (2005). KIDSCREEN-52 quality-of-life measure for children and adolescents. *Expert Review of Pharmacoeconomics & Outcomes Research, 5*(3), 353-364. The KIDSCREEN-10 Index - kidscreen.org
Prosocial Tendencies Measure-Revised (PTM-R) (25 items)	Carlo, G., Hausmann, A., Christiansen, S. & Randall, B.A. (2003). Sociocognitive and behavioral correlates of a measure of prosocial tendencies for adolescents. *Journal of Early Adolescence, 23*(1), 107-34. Sociocognitive and Behavioral Correlates of a Measure of Prosocial Tendencies for Adolescents (core.ac.uk)
Strengths and Difficulties Questionnaire (SDQ) (25 items)	Goodman, R, Meltzer, H. & Bailey, V. (1998). The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version. *European Child and Adolescent Psychiatry*, 7, 125-130. https://www.sdqinfo.org/
Trait Emotional Intelligence Questionnaire Adolescent Short Form (TEIQue-ASF) (30 items)	Petrides, K. V. (2009). Psychometric properties of the Trait Emotional Intelligence Questionnaire. In C. Stough, D.H. Saklofske, and J.D. Parker (eds). *Advances in the Assessment of Emotional Intelligence.* New York: Springer. https://www.corc.uk.net/outcome-experience-measures/trait-emotional-intelligence-questionnaire-adolescent-short-form/

Table 4: Human-animal interaction behaviours

Name of measure/scale	Reference and/or website
Children's Attitudes and Behaviours toward Animals (CABTA) A questionnaire for parents	Guymer, M.E., Mellor, D., Luk, E.S.L. & Pearse, V. (2001). The development of a screening questionnaire for childhood cruelty to animals. *Journal of Child Psychology & Psychiatry 42*(8), 1057-1063. Section A: pet ownership Section B: experiences, attitudes and behaviours towards animals (8 items) Section C: cruelty to animals (13 items) The Development of a Screening Questionnaire for Childhood Cruelty to Animals - Guymer - 2001 - Journal of Child Psychology and Psychiatry - Wiley Online Library
Children's Reported Humane Behaviour toward Animals (CRHBA) (12 items)	Hawkins, R.D. & Williams, J.M (2016) Children's Beliefs about Animal Minds (Child-BAM): Associations with positive and negative child-animal interactions. *Anthrozoös, 29*(3), 503-519.
Children's Representations of Social Support (including pets) (8 items) A story-based methodology	McNicholas, J. & Collis, G.M. (2001). Children's representations of pets in their social networks. *Child Care Health Development 27*(3), 279-294. Children's representations of pets in their social networks - McNicholas - 2001 - Child: Care, Health and Development - Wiley Online Library
Children's Treatment of Animals Questionnaire (CTAQ) (13 items)	Thompson, K.L. & Gullone, E. (2003). The Children's Treatment of Animals Questionnaire (CTAQ): A psychometric investigation. *Society & Animals 11*(1), 1-15. The Children'sTreatment of Animals Questionnaire (CTAQ): A Psychometric Investigation (animalsandsociety.org)
Cruelty to Animals Inventory (CAI) 9 theory-driven dimensions of cruelty	Dadds, M.R., Whiting, C., Bunn, P., Fraser, J.A., Charlson, J.H. & Pirola-Merlo, A. (2004). Measurement of cruelty in children: The Cruelty to Animals Inventory. *Journal of Abnormal Child Psychology 32*(3), 321-334. Measurement of cruelty in children: The Cruelty to Animals Inventory - CORE Reader

Term	Definition
Animal cruelty	A term traditionally used to denote harm caused by humans to animals. In legal terms, emphasis is placed on actions that cause unnecessary suffering, or failure to take steps to prevent unnecessary suffering. Ascione (1993) defined it as "socially unacceptable behavior that intentionally causes unnecessary pain, suffering, or distress to and/or death of an animal" (p. 228). However, this is a highly nuanced area and the term 'animal cruelty' is interpreted and used in many different ways. There are also concerns about the concept of 'intentional' harm in relation to children (especially where childhood trauma is involved) and the potential risk of stigmatising children/young people. Accordingly, we recommend references to 'cruelty' are replaced with 'harm'.
Animal minds	The idea that animals experience thoughts and feelings. This concept is linked with sentience and empathy (definitions provided later in this glossary).
Animal rights	The idea that animals are worthy of consideration in the same way as humans and have the right to live free from human exploitation and abuse. It is an area of significant debate due to the wide range of ways in which animals are used for human purposes (for food, clothing and medicine). Animal rights supporters believe that it is morally wrong to use or exploit animals in any way.
Animal welfare	The physical and emotional health and wellbeing of an animal. It is a field of scientific study (applied biological sciences), an area of practice (veterinary and animal welfare organisations), and also an area of legislative protection of animals. Traditionally, there has been a focus on compromised welfare when animals' needs are not met. However, there is growing recognition of the importance of positive welfare and providing enrichment experiences that enhance the quality of animals' lives, ensuring they are happy and healthy.
Animal Welfare Act (2006)	This is a piece of UK legislation and a code of practice to help protect the welfare of pets and domestic animals. It places a legal duty of care on the owners or keepers of animals to provide for their welfare needs (see definition provided later in the glossary).
Animal welfare education	Teaching people how to understand and protect animals to ensure positive welfare/wellbeing.

Term	Definition
Attitudes	An attitude has been defined as "a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events or symbols" (Hogg & Vaughan 2005, p. 150). It has three components: • Affective (involving a person's feelings about the attitude object – e.g., animals generally/harm to animals/human behaviour towards animals), • Behavioural (the way the attitude held influences how we act/behave or intend to act/behave), and • Cognitive (involving a person's beliefs/knowledge about the attitude object).
Behaviour	The way in which a person or animal acts/responds when in a given situation, including how they react/respond to others.
Cognition/ cognitive	The mental processes involved in gaining knowledge and understanding. It includes thinking, knowing, remembering, judging, and problem-solving.
Compassion	"A multidimensional process comprised of four key components: (1) an awareness of suffering (cognitive/empathic awareness), 2) sympathetic concern related to being emotionally moved by suffering (affective component), (3) a wish to see the relief of that suffering (intention), and (4) a responsiveness or readiness to help relieve that suffering (motivational)" (Jazaieri et al. 2012, p.1117-1118).
Cruelty prevention	Represents a full spectrum of activities, from actions and educational activities to prevent harm being caused to animals in the first place (or stop further harm occurring), to public campaigns, policy, and legislation.
Empathy	An ability to sense/feel the emotions of other, being able to put yourself in their place as if you were them. Empathy towards other humans needs to be distinguished from empathy towards animals. It does not necessarily generalise. Three different types of empathy have been described: • Cognitive (or empathy by thought) - involves perspective-taking/ understanding what someone else might be thinking or feeling by imagining oneself in the other person's situation, • Affective/emotional (or empathy by feeling) - when a person feels the other's emotions alongside them, and • Behavioural/compassionate - sensing someone's pain, & taking action to help.

Term	Definition
Evaluation (in-house practice evaluation)	Systematic determination of how well a programme, a policy or project is working; what is going well and what is not. The aim is to gain insight into the value and effectiveness of prior or current initiatives to enable reflection and identify best practice for the future. It takes the form of routinely collected data, and is different to evaluation research.
Evaluation research	A type of applied social science that uses standardised research methods for evaluative purposes, and/or as a formal assessment process. These studies involve gaining ethical approval and conducting formal statistical/qualitative data analyses.
Intervention	A structured, planned, and integrated set of activities designed to have specific types of impact on the recipients. The activities are designed to impart specific types of knowledge, skills or ways of thinking, or change attitudes and/or behaviours.
Knowledge	A theoretical or practical understanding of a subject and associated concepts, acquired through experience or formal learning. Knowledge can be categorised into four types: (1) factual, (2) conceptual, (3) procedural, and (4) metacognitive (Krathwohl, 2002).
Logic model	A graphic representation of a hypothesis or 'theory of change' about how an intervention works. This includes inputs, mechanisms and outcomes that can be measured.
Outcomes	The changes that result from a given piece of work or intervention. Anticipated outcomes are the changes that organisations want to see as a result of their work. In evaluation terms, this usually refers to expected changes in children and young people's thinking, attitudes, behaviour, etc. as a result of participating in an intervention. Outcomes relate to the ultimate goals or desirable end results of an organisation's work and the areas an intervention is targeting and trying to improve.

Term	Definition
Qualitative data	Information that cannot be counted, measured or easily expressed using numbers (e.g., testimonials and quotes). Qualitative research tries to answer questions about how people interpret and feel about things that happen to them, or things they take part in. It is also useful for examining the actions people take and what motivates them to take those actions. From the perspective of animal welfare/humane education organisations, qualitative data can come from interviews, focus groups, open-ended survey responses, participant observation, social media posts, and case studies.
Quantitative data	Any data that can be counted or expressed numerically. Quantitative research tries to answer questions involving quantity, frequency, value, or size. With respect to evaluating interventions, it is used to assess differences (in attitudes, knowledge, behaviour, skills, etc.) before and after participating. Statistical analysis can establish the extent of any changes (e.g., a significant difference between pre- and post-intervention total or average scores).
Self-evaluation	This is the process of reflecting on your own work. It can refer to personal or organisational appraisal and can be informal or formal. It should be an integral part of any evaluation; an honest assessment of the methods, tools, or ways of working that have been successful and those that need to be improved.
Sentience	The capacity to experience different feelings such as suffering or pleasure, and the ability to learn from experience and other animals, assess risks and benefits, and make choices (Broom, 2006).
Skills	A set of behaviours that reflect an ability to do something well; applying knowledge to practice and acting effectively.
'The Link/s'	This refers to the established link between acts of cruelty to animals and violence toward humans. This includes child abuse, domestic violence, elder abuse and other violent behaviour. More information can be found at: https://thelinksgroup.org.uk What is the Link | National Link Coalition

Term	Definition
Theory of Change	A comprehensive description and illustration of how and why a desired change is expected to happen in a particular context, and why a particular way of working will be effective. It shows how change happens in the short, medium and long term to achieve the intended impact.
Welfare needs	The things an animal needs in order to experience a 'good life'. The Animal Welfare Act (2006) outlines five welfare needs that owners have to provide for. A detailed description can be found on the People's Dispensary for Sick Animals (PDSA) website: [Your pet's 5 Welfare Needs - PDSA](), but these can be summarised as the need:

(1) for a suitable environment,

(2) for a suitable diet,

(3) to exhibit normal behaviour patterns,

(4) to be housed with, or apart, from other animals, and

(5) to be protected from pain, suffering, injury and disease.

If pet owners do not comply with the legislation, and fail to provide for their animals' needs, they can be prosecuted and convicted of animal cruelty.

The 'five domains' framework (a reformulation of the 'five welfare needs' or 'five freedoms') (Mellor & Beausoleil, 2015) is viewed as a useful tool for understanding how to provide for everything an animal needs, moving beyond merely providing for physical needs with its greater focus on mental wellbeing. It provides a useful framework for developing animal welfare education materials.

References and useful resources

Ascione, F.R. (1993). Children who are cruel to animals: A review of research and implications for developmental psychopathology. *Anthrozoös, 6*(4), 226-247.

Broom, D.M. (2006). The evolution of morality. *Applied Animal Behaviour Science, 100,* 20-28.

Evaluation Support Scotland (2020) Evaluation Pathway.
http://www.evaluationsupportscotland.org.uk/evaluation-landing-page/

Hawkins, R., Scottish Society for the Prevention of Cruelty to Animals, & Williams, J. (2019). The development and pilot evaluation of a 'serious game' to promote positive child-animal interactions. *Human-Animal Interaction Bulletin*, *8*(2).

Hoffmann, T., Glasziou, P., Boutron, I., Milne, R., Perera, R., Moher, D., Altman, D., Barbour, V., Macdonald, H., Johnston, M., Lamb, S., Dixon-Woods, M., McCulloch, P., Wyatt, J., Chan, A. & Michie, S. (2014). Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. BMJ 348: g1687.
Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide | The EQUATOR Network (equator-network.org)

Hogg, M. & Vaughan, G. (2005). *Social Psychology (4th edition)*. London: Prentice-Hall.

Information Commissioner's Office (2018). *Guide to the General Data Protection Regulation (GDPR).*
Guide to the General Data Protection Regulation - GOV.UK (www.gov.uk)

Jazaieri, H., Jinpa, G.T., McGonigal, K., Rosenberg, E.L., Finkelstein, J., Simon-Thomas, E., Cullen, M., Doty, J.R., Gross, J.J., & Goldin, P.R. (2013). Enhancing compassion: A randomized controlled trial of a compassion cultivation training program. *Journal of Happiness Studies*, *14*(4), 1113-1126.

Mellor D.J. & Beausoleil N.J. (2015) Extending the 'Five Domains' model for animal welfare assessment to incorporate positive welfare states. *Animal Welfare 24*, 241–253.

Krathwohl, D.R. (2002). A revision of Bloom's Taxonomy: An overview. *Theory Into Practice, 41*(4), 212-218.

Muldoon, J.C. & Williams, J.M. (2021). Establishing consensus on the best ways to educate children about animal welfare and prevent harm: an online Delphi study. *Animal Welfare 30*(2).

Muldoon, J.C. & Williams, J.M. (2021). The challenges and future development of animal welfare education in the UK. *Animal Welfare 30*(2).

Muldoon, J.C. & Williams, J.M. (2021). *The Animal Welfare Education for Children Toolkit.* Children, adolescents and animals research (Caar), University of Edinburgh.
The Animal Welfare Education for Children Toolkit | The University of Edinburgh

Public Health England (2018) *Evaluation in Health and Wellbeing: Guidance Summaries.*
https://www.gov.uk/government/publications/evaluation-in-health-and-wellbeing-guidance-summaries/evaluation-in-health-and-well-being-guidance-summaries

Wolpert M., Sharpe H., Humphrey N., Patalay P. & Deighton, J. (2016) *EBPU Logic Model*. London: CAMHS Press. https://www.annafreud.org/media/5593/logic-model-310517.pdf

We wish you every success with your interventions and evaluations

Janine and Jo