



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

**Faculty of Veterinary Medicine
and Animal Science**
Department of Clinical Sciences

Evaluation of animal welfare education in primary schools in Lilongwe, Malawi

Anna Gyllenhammar



*Uppsala
2015*

Degree Project 30 credits within the Veterinary Medicine Programme

*ISSN 1652-8697
Examensarbete 2015:40*

Evaluation of animal welfare education in primary schools in Lilongwe, Malawi

Utvärdering av djurvälferdsundervisningen i grundskolor i Lilongwe, Malawi

Anna Gyllenhammar

Supervisor: Karin Alvåsen, Department of Clinical Sciences

Assistant Supervisor: Ulf Emanuelson, Department of Clinical Sciences

Examiner: Nils Fall, Department of Clinical Sciences

Degree Project in Veterinary Medicine

Credits: 30 hec

Level: Second cycle, A2E

Course code: EX0736

Place of publication: Uppsala

Year of publication: 2015

Number of part of series: Examensarbete 2015:40

ISSN: 1652-8697

Online publication: <http://stud.epsilon.slu.se>

Key words: Animal welfare education, humane education, humane lessons, animal kindness clubs, domestic violence, animal cruelty

Nyckelord: Djurvälferdsundervisning, humane education, animal kindness clubs, våld i hemmet, djurplågeri

Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Faculty of Veterinary Medicine and Animal Science
Department of Clinical Sciences

SUMMARY

Animal welfare issues are not considered as high priority in Malawi, a developing country in south east Africa, due to problems affecting the human population. In Lilongwe, the capital city, education programs are used to increase the awareness of animal welfare issues among primary school children.

A study was undertaken to evaluate the knowledge, attitude and practice of animal welfare in primary school children as well as two different teaching methods for animal welfare, namely humane lessons (HL) and Animal Kindness Clubs (AKC). The gender perspective, in terms of differences in attitude towards and knowledge in animal welfare, was also evaluated as well as the link between domestic and animal violence. The study was performed in collaboration with Lilongwe Society for the Protection and Care of Animals (LSPCA). A questionnaire of multiple choice character was handed out to 249 children aged between 9 and 15 from six different schools. Three schools received HL and the other three had already active AKCs. The children filled in the questionnaire, participated in the intervention (either three HLs or three AKCs), and filled in the questionnaire again. In total, 146 children filled in both the pre- and post-intervention questionnaire, 11 children only filled in the pre-intervention questionnaire and another 92 children filled in the post-intervention questionnaire.

All children, regardless of the gender, learned a little about animal welfare, but they seem to learn more from the HLs than from the AKCs. Many children seemed to have a good knowledge base in some animal welfare areas before the intervention took place. A high proportion (93 %) of both boys and girls had experienced violence against animals and about half of them had experienced domestic violence or both domestic violence and violence against animals. The conclusion was that the base level of animal welfare knowledge is good regardless of gender in both HL and AKC group, but the education programs, HL more than AKC, only improve the knowledge to some extent. There seem to be a link between domestic and animal violence but further studies are recommended to penetrate the subject.

SAMMANFATTNING

I Malawi, som är ett utvecklingsland i sydöstra Afrika, är inte djurens välfärd högt prioriterad eftersom befolkningen lider av många olika problem och svårigheter. I huvudstaden Lilongwe användes utbildningsprogram riktade till skolbarn i grundskolan för att öka medvetenheten och för att förbättra djurvälståndet.

Studiens syfte var att undersöka kunskapen om och attityden till djurvälståndet hos skolbarn i Lilongwe. Två olika utbildningsprogram inriktade på djurvälståndet, Humane lessons (HL) och Animal Kindness Clubs (AKC), utvärderades. Eventuella könsskillnader i kunskapen om och attityd till djurvälståndet samt kopplingen mellan våld i hemmet och våld mot djur undersöktes.

Studien utfördes i samarbete med Lilongwe Society for the Protection and Care of Animals (LSPCA), en veterinärklinik som gav lektioner i djurvälståndet (HL) samt introducerade djurvälståndetsklubbar (AKC) i grundskolor i Lilongwe. En enkät med multipla svarsalternativ där kunskap, attityd och praktiskt handlande utvärderades, delades ut till 249 barn som var mellan nio och femton år i sex olika skolor. Tre skolor fick HL och tre hade redan aktiva AKCs. Barnen fyllde i enkäten, sedan gavs tre HLs eller hölls tre AKCs och därefter fick samma barn fylla i enkäten igen. Totalt erhöles både före- och efterenkäter från 146 barn, 11 barn fyllde enbart i förenkäten och ytterligare 92 barn fyllde endast i efterenkäten.

Resultatet visade att barnen oavsett kön lärde sig något om djurvälståndet från båda utbildningsprogrammen, men de verkade ha lärt sig mer från lektionerna än från klubbarna. Många barn, oavsett kön, hade redan innan interventionen en bra baskunskap om djurvälståndet. En hög andel (93%) av både flickor och pojkar hade upplevt våld mot djur och ungefär hälften av dem hade upplevt våld i hemmet eller både våld i hemmet och våld mot djur.

Slutsatsen var att barnens baskunskap i djurvälståndet är god oavsett kön i både HL och AKC gruppen, och utbildningsprogrammen, HL mer än AKC, förbättrar bara kunskapen till viss del. Det verkar finnas en länk mellan våld i hemmet och mot djur men vidare studier är rekommenderade för att belysa ämnet vidare.

TABLE OF CONTENT

SUMMARY	1
SAMMANFATTNING	2
LIST OF ABBREVIATIONS	4
INTRODUCTION	5
LITTERATURE REVIEW	7
Malawi.....	7
The Lilongwe society for the protection and care of animals.....	8
The educational system in Malawi.....	8
Evaluating teaching skills	9
The influence of the teacher on the students’ performance.....	9
Humane education and animal welfare	10
Humane lessons and Animal Kindness Clubs	10
MATERIALS AND METHODS	13
Study design and sample collection	13
Questionnaire.....	13
Statistical analysis	14
RESULTS	16
Background information	16
Comparison of the pre- and post-intervention data	16
Comparison of the genders with the post-intervention group.....	20
Comparison of HL and AKC	21
DISCUSSION	24
General discussion about the result.....	24
Gender differences	25
Domestic violence and animal cruelty	25
Study design and sample collection	25
Potential biases	26
CONCLUSIONS	28
ACKNOWLEDGEMENT	28
REFERENCES	29
APPENDIX Questionnaire about animal welfare	33

LIST OF ABBREVIATIONS

AKC - Animal Kindness Clubs

AWE - Animal Welfare Education

HL - Humane Lessons

HSI - Humane Society International

LSPCA - Lilongwe Society for the Protection and Care of Animals

SIDA - Swedish International Development Cooperation Agency

WHO - World Health Organization

INTRODUCTION

Animal welfare is an important subject since it is known that by improving the welfare of the animal population, the health of the human population is also improved (OiE, 2014). In developing countries, such as Malawi, where the animal health is not a high priority concern, it is important to educate people in the matter (Ascione & Weber, 1996; Spiegel, 2000).

By animal welfare education (AWE), that is one part of the humane education, the human population will get a greater understanding of animals as well as a better attitude towards them, which in turn eventually will improve the welfare of animals (Hemsworth *et al*, 2002; Coleman *et al.*, 2003; Mariti *et al*, 2011). A study of gender differences in animal-human relationship and attitudes towards animals showed that women, on average, showed higher levels of positive attitudes and behaviors towards animals (Hertzog, 2007). There are however few reliable and validated instruments to measure changes in animal-related attitudes and values over time (Serpell, 2008).

Violence against animals is often assumed to go hand in hand with violence against people (Walton-Moss *et al*, 2005; Ascione *et al*, 2007; Holmberg, 2014). Ascione *et al* (2007) found that severe physical violence was a significant factor of pet abuse. The empathy towards humans can also be strengthened by enhancing the attitude towards animals. Thus the tendency for violence both against humans and animals can be diminished by teaching humane education (Ascione & Weber, 1996; Faver, 2010; Wagner, 2014). A study by Nilsson (2014) evaluated children's knowledge of animal welfare as well as their knowledge and attitude towards rabies. Nilsson (2014) studied the knowledge of a group of school children receiving humane education from the Lilongwe Society for the Protection and Care of Animals (LSPCA) in Malawi and compared it with the knowledge in a group of children who did not receive humane education. That study did not distinguish between different educational methods, but concluded that AWE programs could enhance the awareness of rabies and improve the attitude towards dogs. That AWE programs improved the attitude towards dogs confirmed results from other studies (Lakestani *et al*, 2011).

The aim of the present study was to evaluate differences in knowledge, attitude and practice of animal welfare in primary school children in Lilongwe, Malawi, before and after participating in humane lessons (HL) or Animal Kindness Clubs (AKC). The aim was also to investigate if there were any difference in the efficacy between the programs. The gender

perspective was also evaluated in terms of differences in knowledge and attitude towards animal welfare, as well as the link between domestic and animal violence.

LITTERATURE REVIEW

Malawi

The republic of Malawi, also called “The warm heart of Africa”, is one of the poorest and less developed countries in the world. It is a landlocked state between Mozambique to the east, Zambia to the west and Tanzania in the north. Lake Malawi constitutes a border between Malawi and Mozambique (Utrikespolitiska institutet, 2014).

The official languages are Chichewa and English. Most of the people are Christians but still old traditions like animism exist. Half of the population is below 20 years and the life expectancy is 53 years, mostly due HIV/AIDS and high infant and mother mortality (UNICEF, 2014). Other major diseases such as malaria, hepatitis, typhoid fever, schistosomiasis and plague also contribute to the poor health status of the population. Rabies is another important zoonotic disease most common in the dog and cat population, which, although not prioritized by the government, possesses a threat to the population (Knobel *et al* 2005).

About 85 % of the population of about 15 million people lives in the rural areas. The economy is primary based on agriculture and about one third of the gross domestic product (GDP) and 90 % of the exports come from agriculture products such as tobacco, sugarcane, cotton and tea. The country suffers from corruption, both in political, economic and juridical aspects, even though the anti-corruption laws are strong (Utrikespolitiska institutet, 2014; Transparency International, 2012). Many human rights issues are also a concern, such as police brutality in the prisons, discrimination against homosexuals as well as against women (Utrikesdepartementet, 2010).

In developing countries such as Malawi, animals in general are probably not that highly regarded among people. Animal cruelty, due to deficient understanding of animals and lack of compassion against animals is common. The lack of socioeconomic welfare amongst the population of Malawi makes it hard for the people in general to provide adequate care of an animal.

The Lilongwe society for the protection and care of animals

The LSPCA is a Lilongwe-based non-profit organization founded 2008 by people in Malawi concerned about the welfare of the animals in the country. The organization is supported both by the Royal Society for the Prevention of Cruelty to Animals International (RSPCA) and by the Malawi Ministry of Agriculture and Food security. Since 2010 the organization is registered as a charity and the clinic provide animal care to a cost depending on what the owner can afford (a small fee or for free). In the villages and suburbs around Lilongwe the LSPCA carry out rabies vaccination campaigns and spaying/neutering campaigns for free. They also have different theme campaigns, such as chicken campaigns where they inform people about how to transport chicken in a non-cruel way (LSPCA, 2014).

The LSPCA have been giving HL since 2011 to students in schools in Lilongwe to try to raise the awareness of animal welfare and promote compassion and responsibility towards animals. Their target is primary school children because this group often is responsible for the care of the animals in the family. By improving children's knowledge of animal care, the LSPCA hope that the children will forward this knowledge to other people in the family. One study has shown that female pet owners has a higher attachment level to their pets than male pet owners and which can probably affect the interest in animal welfare questions (Smolkovic *et al*, 2012). The LSPCA also collect stray dogs which they deworm, vaccinate, castrate and put in quarantine before giving them out for adoption. In this way they reduce the numbers of unwanted dogs on the streets of Lilongwe and thus also the risk of zoonotic diseases within the population (Lunney *et al.*, 2011).

The educational system in Malawi

The education system in Malawi runs in an 8-4-4-system, which means that primary school runs during 8 years, secondary during 4 years and University during 4 years. Students have to pass all exams, including English, on scheduled time to be allowed to move to the next education level (US Embassy, 2014).

There are both private and public primary schools, where public primary schools are free of charge since 1994. Primary education is compulsory and normally starts at the age of 6 but it varies (Landguiden, 2014). From secondary school a fee has to be paid and it is common that families, especially in the rural areas, cannot afford secondary education for all children

(Ripple Africa, 2014). The attendance rate for primary school is improving for each year with a net enrollment of about 97 % in 2009 according to UNESCO (2014). These data indicate, however, that the “survival” to the last grade of primary was only about 35 and 50 % in 2007 and 2011, respectively, with a few percentages higher among boys than girls. About the same percentage of boys and girls, 30 and 29 % respectively, are enrolled in secondary school (UNICEF, 2012). The retention rate in secondary school is much better than in the primary school (UNESCO, 2014). The cause of the low attendance rate in secondary school is not only the school fee, but also because of the cost of transportation to school, the cost of food needed in school and lost family work aid (personal communication Zambira, 2014).

The educational system is strongly influenced by the poverty and low humane and social development of the country as well as by the HIV/AIDS problems and the demographic pressure with a young, fast growing population. For example, if a child loses his or her parents due to AIDS it is not likely that he or she will continue in school. Other problems regarding the quality of the education such as poor condition in the class room, lack of space, school materials and teachers have become worse due to the lack of sufficient funding from the government in combination with an increasing primary school attendance rate (Landguiden, 2014; World Bank, 2010).

Evaluating teaching skills

To evaluate teaching skills one method is to look at the result of the students before and after a teaching intervention, although the best way of evaluating teaching is to use multiple sources. Student ratings, peer observation and the teachers own reflections of a particular course are examples of evaluation methods (Felder and Brent, 2004). Student ratings have shown to have a high level of validity but should not be the only form of validation (McKeachie, 1997; Felder and Brent 2004) since it has limitations. For example, the students are not qualified to make a proper evaluation of the teachers’ pedagogic skills et cetera and the questions might be poorly constructed (Brent and Felder, 2004; Hoyt and Pallett, 1999).

The influence of the teacher on the students’ performance

The teacher influences the children on what and how much they learn, depending on his/her own knowledge and leadership skills as well as on the pedagogic methodology used. A teacher needs to have both knowledge skills and leadership skills (Augustsson & Boström,

2012). There are different learning styles that need to be matched with the teaching methodology in order to get the most efficient education (Felder and Silverman, 1988). The different styles depend on “each person’s biologically and experiential induced characteristics that either foster or inhibit achievement” (Dunn, 1984). Fleming (1992) talks about four different learning styles which is called VARK based on the Visual (graphic or symbolic information), the Aural (“heard” information), the Read and the Kinetic (the information used in practice) preferences of the learner. It is important that teacher diagnose these different styles among the students so they can be taught in a way that corresponds to their preferences (Dunn & Zenhausern, 1990). The teacher also needs to be aware of, and deal with, the fact that children have different relational and emotional needs which they also bring to the class room (McElfresh, 2013). If the teacher is enthusiastic about teaching and develops a good teacher-student relationship, he/she is more likely to engage the students with aggressive and poorly managed behavior (Hughes & Kwok, 2006).

Humane education and animal welfare

Humane education is defined as the teaching of compassion, respect and empathy towards all living creatures (Wagner *et al*, 2014). Tolerance, sensitivity towards all living beings and appreciation of diversity are the corner stones of humane education. The subjects in focus are animal welfare, environmental- and social justice. A sense of responsibility and care for the surroundings as well as critical thinking and empowering skills are taught (Institute for Humane Education, 2014; World animal net, 2014). Animal welfare education promotes a humane attitude towards animals and an understanding of the basic needs of animals and how humans have an impact on those needs. It also teaches the right skills to interact with an animal and the right attitudes towards animals. Animals have rights as well as needs and humans are responsible for providing the right care and for fulfilling the animal’s needs (Burgess-Jackson, 1998). The humane education, run by the LSPCA as humane lessons or Animal Kindness clubs, consists mainly of the animal welfare part.

Humane lessons and Animal Kindness Clubs

The primary subject for HLs and AKCs is animal welfare. They both acknowledge the fact that animals have needs and that humans are responsible for fulfilling those needs to animals in their care (Burgess-Jackson, 1998). Humane lessons have been rolling since 2011 whereas AKCs started in 2014. The spoken language is mainly English, but also Chichewa, in both the

lessons and the clubs. Their educational programs are aiming to educate children in animal knowledge (basic care of animals, violation of animals and understanding animals).

In certain selected classes at the public primary schools in Lilongwe, HL are run. The lessons are given in a whole class consisting of approximately 100 students and highlights the “five freedoms” (FAWEC, 1992) based on the basic needs of the animals as well as animal abuse/violation and how to prevent dog bites. The children are asked questions about animals and the teacher tries to make the students active during the classes. For example, the students are told to draw animals, name domestic and wild animals, or to explain in class examples of what “natural behavior” is. The lessons are provided as a one hour lecture once a week for normally three weeks (three lessons in total). They are provided by a teacher from the LSPCA that either has a university degree in teaching or is educated internally. The HL are said to have the same content as the AKCs but has no fixed agenda, which means that the exact content of each lesson varies. After participating in the HL, children can continue their humane education if they want by getting enrolled in the AKC, which are usually initiated at the schools when HLs are finished. There is, however, no requirement that the students should have participated in HLs before they start with AKC, so some children go directly from not participated in any animal welfare classes or humane education to the AKCs. The AKC meetings are usually once a week outside the school schedule and are not mandatory. The number of students in each club varies between schools and between weeks. A matron or patron (i.e. a teacher interested in AWE) is the club leader. There is an AKC-guide produced by the LSPCA that provides material for the matrons or patrons to use in the club-meetings, but the clubs have no set agenda that is similar in each school. The LSPCA usually meet the club matrons/patrons to keep track on what is achieved on their meetings. Their goal is three meetings per year with each club (personal communication Chiweta, 2014). The long term goal for LSPCA is to have at least 40 clubs in public schools, engage at least 1500 pupils in the 17 traditional areas in Lilongwe over a 12 month’s period. Another goal is to enroll animal welfare in the school curriculum. The AKCs are regarded by the LSPCA as a more efficient way of teaching animal welfare, since the responsibility is handled on to the schools and it requires less time and staff hours from the LSPCA. The members of the clubs can also act as ambassadors of animal welfare in their own village and report any animal welfare violations (LSPCA, 2014).

The difference between the two educational systems lies in the methodology, where AKC-lessons are student oriented (learner-centered) allowing them to participate more in the learning and HLs are more teacher oriented (teacher-centered) where knowledge is passed on by the teacher and the students are more passive (personal communication Zambira, 2014). One study claims that learner-centered approach seems to make the student learn better than the teacher-centered approach. It seems on the other hand that the teacher-centered approach optimize learning for high-anxious students, whereas the learner-centered approach optimize result for low-anxious students (Dowaliby & Schumer, 1973).

MATERIALS AND METHODS

Study design and sample collection

The study was conducted in collaboration with LSPCA from September to the end of October 2014. Primary schools in the suburban areas of Lilongwe, no more than 15 kilometers from the city center, were contacted by a staff of the LSPCA and asked if they wanted to receive HL as well as participate in the study. In total, six schools were included in the study, three received HL and three already had on-going AKC. The different schools were chosen according to where LSPCA decided to start giving HL as well as where there were schools with already existing AKC that had been going on for at least 6 month. The schools were run by the government and were open for all children in Lilongwe, except for one of the schools that was only open for orphans. This school was run by a non-governmental international organization called SOS Children's Villages. The number of children in each school varied from about 3000 to 6000. On average there were approximately 200 children and 2 teachers per class. The study was aimed at participants at an age of 9 to 15 years and they were thus selected, by the teacher, out of a standard 6 to 8 class. The children had to be above a certain age so that the questions were to be understood. They were selected to include an equal number of male and females. Two groups of participants were selected: one study group that was investigated before and after receiving AWE; and another group that was investigated only after receiving AWE. The latter group, only given the post-intervention questionnaire, is hereafter called "only post-intervention" group.

A written pre- and post-intervention questionnaire was given to the study group and a post-intervention questionnaire was given to the "only post-intervention" group. The pre-intervention questionnaire was given before the HL were held and at the start-up of the AKC meetings for the term. A post-intervention questionnaire was then given to the same schools after the three lessons were finished or three AKC meetings had been held, including the same children in the study group.

Questionnaire

The questionnaire was designed according to the Knowledge, Attitude and Practice (KAP) survey model, which is a quantitative method that provides access to both quantitative and qualitative information. This survey model is a guide in how to prepare and implement quantitative surveys. Through the use of questionnaires and statistical processing of the

information collected, a certain topic or phenomenon can be quantified or measured. The KAP survey model also defines the concept of Knowledge, Attitude and Practice and gives examples of questions that can be asked. With the help of a KAP survey one can “enhance the knowledge, attitude and practices around specific themes and identify what is known and done about various subjects relating to health” (in this study animal welfare). The survey also helps measuring the effectiveness of an (health) education program aiming to change (health) behaviors of the targeted group (Gumucio, 2011).

The KAP survey usually does not contain open questions and does not reveal new problems or deepen the understanding of a situation. It is recommended to complete a KAP survey with individual and/or group interviews (focus groups) with open questions, since it helps deepen certain topics addressed in the KAP survey. The focus group stimulates a dialogue around a certain topic and encourage spontaneous expressions from the group (Gumucio, 2011). In this study however with the given circumstances and the limited amount of time, this was not possible. Conducting a KAP survey according to Gumucio (2011) is both time consuming and finance demanding, which means that the questionnaire in this study had to be of a modified version of a KAP survey.

The questionnaire was of multiple-choice character and contained questions about general animal knowledge and attitude towards certain topics, based on the AKC guide from the LSPCA, such as vaccination and castration as well as questions about domestic and animal violence. Questions about background, such as gender, age, animal interest were also included. The questions were written in both in English and in Chichewa, with help from a staff member of the LSPCA (Appendix I). This staff member also gave feed-back on the questions before the questionnaire was used.

Statistical analysis

The answers from the questionnaire were entered into an Excel file. All variables contained nominal or ordinal data. When analyzing differences between pre- and post-intervention questionnaires the same student was compared with her/himself, thus the observations were paired. To analyze this type of paired categorical data Bowkler’s test of symmetry was used. This test is similar to the McNemars test but with the advantage of not only being allowed to compare data in a 2x2 manner but also larger contingency tables (eg 4x4) (Krampe & Kuhnt, 2005). When analyzing differences between HL and AKC the observations were independent. As some of the cells had a low frequency of observations the Fisher’s exact test was used (Agresti, 2007). A P-value less than 0.05 was regarded as a significant difference. The data

were analysed using the PROC FREQ procedure with fisher command for Fisher's exact test and agree command for the Bowker's test of symmetry in SAS v 9.3 (SAS Institute Inc., 2014).

RESULTS

Background information

There were 14 participants per school that received the pre-intervention questionnaire, totally 42 children in both HL and AKC. The genders were equally distributed in the HL group, where as in the AKC group there were 22 boys and 20 girls. The number of participants that received post-intervention questionnaire was 34 in HL and 39 in AKC due to unpredictable reasons, for example diseases. The number of drop outs was 8 and 3 in the HL and AKC, respectively. In total, 73 children answered both the pre- and post-intervention questionnaire and could be included in the analysis. There were 92 children in the group that only received the post-intervention questionnaire. The total number of usable questionnaires was 249 and these were completed by 165 children, 84 girls and 81 boys (Table 1).

Table 1. *Number of students participating in the study evaluating humane lessons and Animal Kindness Clubs in Lilongwe and their mean age*

School/Club	Mean age (years)	Pre- intervention		Post- intervention		Only post- intervention	
		Boys	Girls	Boys	Girls	Boys	Girls
SOS (HL)	12	7	7	5	7	8	5
Kamuzu Baracks (HL)	12	7	7	6	6	10	6
Chilinde (HL)	13	7	7	4	6	6	11
Mlodza (AKC)	11	8	6	7	6	6	10
Kaliyeka (AKC)	12	7	7	7	7	7	8
Mkomachi (AKC)	13	7	7	6	6	9	6

Comparison of the pre- and post-intervention data

Knowledge

On the question of whether animals can feel any pain, about 94.5 % answered “yes” in the pre-intervention questionnaire an 98.5 % answered the same in the post-intervention questionnaire. None answered “no”. There was no significant difference between the answers in the pre-intervention questionnaire and post-intervention questionnaire (n=73) (Table 2).

Table 2: Do you think that an animal can feel any pain?

	<u>Yes^o</u>	<u>No^o</u>	<u>Maybe^o</u>	<u>I don't know^o</u>	<u>α</u>
Pre-intervention	69 (94.5 %)	0	3 (4.0 %)	1 (1.5 %)	ns
Post-intervention	72 (98.5 %)	0	0	1 (1.5 %)	ns

^oThe three answers were put together as one ("no") when statistics were done.

α = level of statistical significance

“Do you think animals feel the same pain as you can feel?” Approximately 74 % said “yes” in the pre-intervention questionnaire. In the post-intervention questionnaire 90 % then said “yes” and the difference was significant ($p < 0.001$). Of the 17 children that answered either “no” or “maybe” in the pre-intervention questionnaire, 11 children changed to “yes” in the post-intervention questionnaire ($n=73$; Table 3).

Table 3: Do you think animals feel the same pain as you can feel?

	<u>Yes^o</u>	<u>No^o</u>	<u>Maybe^o</u>	<u>I don't know^o</u>	<u>α</u>
Pre-intervention	54 (74 %)	12 (16.5 %)	5 (7 %)	2 (2.5 %)	$P < 0.001$
Post-intervention	66 (90.5 %)	0	5 (7 %)	2 (2.5 %)	$P < 0.001$

^oThe three answers were put together as one ("no") when statistics were done.

On the question “Can animals have the same diseases as humans?” about 12 % answered “yes” and 80 % “no” in the pre-intervention questionnaire where as in the post-intervention questionnaire 29 % answered “yes” and 59 % answered “no”. The result was not significant (Table 4).

Table 4: Can animals have the same diseases as humans?

	<u>Yes</u>	<u>No</u>	<u>Maybe</u>	<u>I don't know^o</u>	<u>α</u>
Pre-intervention	9 (12%)	58 (80%)	2 (2.5%)	4 (5.5%)	ns
Post-intervention	21 (28.5%)	43 (59%)	4 (5.5%)	5 (7%)	ns

^oThe three answers were put together as one ("no") when statistics were done.

“What is a castration/neutering and spaying?” Here 48 % answered in the pre-intervention questionnaire that it was either the procedure where the tail was removed or that “Castration/neutering is the surgical removal of the female reproductive organs. Spaying is a surgery which removes the testicles of an animal so that he can no longer reproduce”. In the last example they had mixed up castration with spaying. In the post-intervention approximately 27 % answered one of the two incorrect answers (Table 5).

Table 5: What is a castration/neutering and spaying?

	<u>1°</u>	<u>2°</u>	<u>3°</u>	<u>α</u>
Pre-intervention	38 (52 %)	22 (30 %)	13 (18%)	P<0.01
Post-intervention	53 (72.5 %)	12 (16.5 %)	8 (11 %)	P<0.01

1°= Spaying is the surgical removal of the female reproductive organs and castration/neutering is a surgery which removes the testicles of an animal so that he can no longer reproduce.

2°= Castration/neutering is the surgical removal of the female reproductive organs and spaying is a surgery which removes the testicles of an animal so that he can no longer reproduce.

3°= Spaying is the surgical removal of the tail of a female dog. Castration/neutering is the same surgery but performed on a male dog.

Alternative 2 and 3 were analyzed as one group.

Attitude

“Do you think it is good to castrate your pet?”

About 69 % said “yes” in the pre-intervention questionnaire and 86 % answered the same in the post-intervention questionnaire. The result was borderline significant (P= 0.08) (Table 6).

Table 6: Do you think it is good to castrate your pet?

	<u>Yes</u>	<u>No</u>	<u>Maybe</u>	<u>I don't know</u>	<u>α</u>
Pre-intervention	49 (69 %)	17 (24 %)	1 (1,5 %)	4 (5.5 %)	ns
Post-intervention	61 (86 %)	7 (10%)	2 (2,5 %)	1 (1.5 %)	ns

“Do you think it's ok to kick or hurt an animal when it's coming close to you? “

About 85 % answered “no” in the pre-intervention and 87.5 % “no” in the post-intervention.

There was no significant difference (table 7).

Table 7: Do you think it's ok to kick or hurt an animal when it's coming close to you?

	<u>Yes</u>	<u>No</u>	<u>Maybe</u>	<u>I don't know</u>	<u>α</u>
Pre-intervention	11 (15 %)	62 (85 %)	0	0	ns
Post-intervention	9 (12.5 %)	64 (87.5 %)	0	0	ns

“Do you think you would catch diseases by petting an animal?” 69 % answered “no” in the pre-intervention questionnaire and 76 % the same in the post-intervention questionnaire. There was no significant difference (table 8).

Table 8: *Do you think you would catch diseases by petting an animal?*

	<u>Yes</u>	<u>No</u>	<u>Maybe</u>	<u>I don't know</u>	<u>α</u>
Pre-intervention	16 (22.5 %)	49 (69 %)	4 (5.5 %)	2 (2.5 %)	ns
Post-intervention	12 (17 %)	54 (76 %)	3 (4,0 %)	2 (3.0 %)	ns

Practice

“What would you do if you saw a sick or injured animal in the street?” For the pre-intervention questionnaire about 97 % would either take it to the veterinary/call the veterinary or walk up to it and help it as good as he or she can. The same percentage for the post-intervention was about 99 %. There were no significant differences (table 9).

Table 9: *What would you do if you saw a sick or injured animal in the street?*

	<u>1°</u>	<u>2°</u>	<u>3°</u>	<u>α</u>
Pre-intervention	52 (71.5 %)	2 (2.5 %)	19 (26.0 %)	ns
Post-intervention	55 (75.5 %)	1 (1.5 %)	17 (23.0 %)	ns

°1= I would try to take it to the veterinary or call the veterinary if the animal is afraid or seems dangerous.

2= I would leave it there because it is not my problem and the animal can be dangerous.

3= I would walk up to it and see what kind of injury it has and try to help it as good as I can.

“If the veterinary offers to vaccinate or castrate your pet, would you let him or her do it?” In the pre intervention questionnaire about 53 % chose alternative 4, where as in the post-intervention questionnaire 68 % chose the same alternative. In the post-intervention questionnaire only one person chose alternative 1, the result was borderline significant (Table 10).

Table 10: *If the veterinarian offers to vaccinate or castrate your pet, would you let him or her do it?*

	1°	2°	3°	4°	α
Pre-intervention	6 (8,5 %)	25 (35 %)	3 (4,0 %)	38 (52,5 %)	P =0.05
Post-intervention	1 (1,5 %)	14 (19,5 %)	8 (11,0 %)	49 (68,0 %)	P =0.05

1°= No, because it is dangerous and vaccination doesn't work.

2°= Yes, but I would just let the veterinary vaccinate my animal.

3°= Yes, but I would just let the veterinary castrate my animal.

4°= Yes, I would let the veterinary do both if it is possible.

“What would you do if your animal is being disobedient and doesn't cooperate?” About 76 % said they would “try to learn why it is disobedient and try to understand its basic needs” in the pre-intervention questionnaire. The same percentage was 78 in the post-intervention questionnaire. There were no significant differences (Table 11).

Table 11: *What would you do if your animal is being disobedient and doesn't cooperate?*

	1°	2°	3°	4°	α
Pre-intervention	56 (76.5 %)	3 (4.0 %)	12 (16.5 %)	2 (3.0 %)	ns
Post-intervention	57 (78.0 %)	1 (1.5 %)	14 (19.0 %)	1 (1.5 %)	ns

1°= I would try to learn more why it is disobedient and try to understand it's basic needs

2°= I would pull the chain (if it has one) really hard and yell at it until it stopped,

3°= I would not do anything because the animal doesn't understand anything anyway,

4°= I would beat it until it cooperates.

Comparison of the genders with the post-intervention group

Background information

On the question if they like animals, about 95 % of both boys and girls said “yes” (n=163).

There were no significant difference among boys and girls (P=0.49).

Knowledge

On the question if animals need clean food and water every day, 98 % of the girls and 90 % of the boys said “yes”. About 8 % of the boys answered that “It depends on the type of animal”,

whereas none of the girls chose this alternative. The differences were significant ($P < 0.05$) ($n = 162$).

Attitude

Experiences of domestic violence were about 50 % for both boys and girls ($n = 163$). About 93 % of both genders had experienced violence against an animal in the street or at home ($n = 162$). There was no significant gender difference in neither experienced domestic violence nor experienced violence against animals. About 49 % had experienced both domestic violence and violence against animals.

Practice

No significant differences amongst the genders were found.

Comparison of HL and AKC

Background information

When comparing HL and AKC the results from the post-intervention questionnaires was ($n = 73$) used and also questionnaires from the group that only completed the post-intervention questionnaire ($n = 92$). On the question of whether they have an animal in their family about 75 % said “yes” in HL and 67 % said the same in AKC ($n = 163$). There was no significant difference among the groups. There were no significant difference between HL and AKC on the question of whether they liked animals and about 95 % answered “yes” to that question.

Knowledge

On the question whether animals can have the same diseases as humans there was almost a significant difference among the HL and AKC group ($p = 0.07$). About 18 % said “yes” and 76 % “no” in the HL group. The same percentage was 31 and 56 respectively in the AKC group (Table 12).

Table 12: *Can animals have the same diseases as humans?*

	yes	no	maybe	I don't know	α
HL	14 (18 %)	59 (75.5 %)	3 (4.0 %)	2 (2.5 %)	ns
AKC	26 (30.5 %)	48 (56.5 %)	5 (6 %)	6 (7 %)	ns

Attitude

About 97 % in the HL group had experienced violence against animals and 3 % had not experienced it. In the AKC group the percentages were 88 and 12, respectively, which was a significant difference ($p < 0.05$, $n=162$).

About 98 % in each group were positive towards vaccinating their own pet. About 83 % were positive towards castrating their pet in the HL group. The same proportion was 80 % for the AKC group. There were no significant difference among the groups in either of the questions ($n=163$).

On the quote “Animals can *not* feel any pain”, there were a difference among the groups ($p<0.01$). In the AKC group about 34 % strongly agreed. The same percentage for the HL group was 15 (Table 13).

Table 13: *Animals can not feel any pain*

	1°	2°	3°	4°	α
HL	12 (15.5 %)	0	3 (4.0 %)	63 (80.5 %)	$P<0.01$
AKC	29 (34.0 %)	3 (3.5 %)	1 (1.0 %)	52 (61.5 %)	$P<0.01$

1°= I strongly agree.

2°= I agree.

3°= I somewhat agree.

4°= I don't agree at all.

Practice

“What would you do if you see a sick or injured animal in the street?” About 87 % in the HL group said that they would “try to take it to the veterinary or call the veterinary if the animal is afraid or seems dangerous”. The same proportion in the AKC group was 73 %. Only the AKC group answered that “I would leave it there because it is not my problem and the animal can be dangerous” ($n=4$). There was a statistical significant difference between HL and AKC in this case (table 14).

Table 14: *What would you do if you saw a sick or injured animal in the street?*

	<u>1°</u>	<u>2°</u>	<u>3°</u>	<u>α</u>
HL	68 (87.0 %)	0	10 (13.0 %)	P<0.05
AKC	62 (73.0 %)	4 (4.5 %)	19 (22.5 %)	P<0.05

1°= I would try to take it to the veterinary or call the veterinary if the animals is afraid or seems dangerous.

2°= I would leave it there because it is not my problem and the animal can be dangerous.

3°= I would walk up to it and see what kind of injury it has and try to help it as good as I can.

“If the veterinarian offers to vaccinate or castrate your pet, would you let him or her do it?” About 71 % and 53% in the HL group and the AKC group, respectively, said that they would let the veterinarian do both. Eleven % in the AKC group answered “No, because it is dangerous and vaccination doesn’t work.” where as in the HL group the same number was about 2 %. The difference was statistically significant (table 15).

Table 15: *If the veterinary offers to vaccinate or castrate your pet, would you let him or her do it?*

	<u>1°</u>	<u>2°</u>	<u>3°</u>	<u>4°</u>	<u>α</u>
HL	1 (1,5 %)	14 (18,0 %)	8 (10,0 %)	55 (70,5 %)	P<0.05
AKC	9 (11,0 %)	21 (24,5 %)	10 (11,5 %)	45 (53,0 %)	P<0.05

°1= No, because it is dangerous and vaccination doesn’t work.

2= Yes, but I would just let the veterinary vaccinate my animal.

3= Yes, but I would just let the veterinary castrate my animal.

4= Yes, I would let the veterinary do both if it is possible.

DISCUSSION

General discussion about the result

The results showed that the children, regardless of gender, learned about animal welfare from both HLs and the AKC, but they seem to learn more from the HL than from the AKC. Many children in both the HL group and the AKC group seem to have good knowledge in animal welfare before participating in the intervention. For example, after both HL and AKC the children seemed more positive and seemed to have a better knowledge towards certain topics, such as vaccination and castration. On the question whether animals can feel the same pain as we can, 74 % of the children first answered “yes”. In the post-intervention the same answer was 90 % ($p < 0.001$). This means that the children learned something about the topic, which is important since the children might show more empathy towards animals if they are aware of that animals can feel pain.

It is notable that the children seem to be unaware of the fact the humans and animals can have the same diseases. The result was the similar in both programs. Since one major focus of the education programs is knowledge of rabies disease, which is a zoonotic disease, it is something to bear in mind for future classes. It also contradicts the study made by Nilsson (2014) who concluded that AWE programs could enhance the awareness of rabies. The surprising result could, however, also be due to misinterpretation of the question as some children might have answered if all diseases could affect both animals and humans.

The difference in knowledge of animal welfare between the groups is not big, but the fact that it seems to be better in the HL group contradicts other studies done where student perform better with a learner-centered approach such as the AKC (Felder & Silverman, 1988). Some students might have a high anxiety level and does not benefit from the learner-centered approach (Dowaliby & Schumer, 1973). Another possible reason to why the students performed better after the lessons is that the lessons were conducted by one teacher and therefore had a more homogenous and controlled agenda and the teacher himself could have had positive influence on the students result. Thus factors such as the individual teachers education, his or hers leadership as well as the teacher-student relationship affects the children’s ability to learn (Hughes & Kwok, 2006; Dunn & Zenhausern, 1990). The AKC curriculum could in theory also vary depending on the matron/patron (although there was an official guide provided by the LSPCA) and this could influence how much the children

learned. A suggestion for the future AKC is that the LSPCA look at the AKCs agenda and that they find time to evaluate the knowledge on a regular basis.

Gender differences

There seem to be no major gender differences in the students' answers. The question "Do animals need clean food and water every day" was the only question where there was a significant difference between the genders, although a high percentage of both genders answered correctly. Both genders, in general, have a good knowledge about and understanding of animals as well as a positive attitude towards animals and animal welfare.

Domestic violence and animal cruelty

A high proportion (93 %) of both boys and girls had experienced violence against animals and about half of them had experienced domestic violence or both domestic violence and violence against animals. A high proportion (about 85 %) thought it was *not* okay to kick or hurt an animal that comes close to you, which shows that it is uncommon amongst the children to commit violence against animals. The link between domestic violence and violence against animals has been shown before (Walton-Moss *et al*, 2005; Ascione *et al*, 2007; Holmberg, 2014) and the results in this present study indicates that there is a link, although no major conclusions can be drawn since the study population is homogenous and quite small. Further studies with a larger and more heterogeneous study population are recommended to investigate the link between domestic violence and animal cruelty in Malawi.

Study design and sample collection

Criticism towards the study design and sample collection can be given. Due to practical reasons no random sampling was made, which is a weakness in the study. There is a possibility that the teacher chose the best students. The "only post-intervention" group was not intended to get the AWE, but due to practical circumstances they accidentally got the AWE, both in the HL and the AKC group. If there would have been a control group the level of knowledge of the participants could have been compared to the level of knowledge of an independent group. On the other hand, the children in this group had not seen the questionnaire before and their answers could not have been affected by this fact.

The number of schools participating in the study was only six and only included in the town of Lilongwe due to practical reasons, which means that it is difficult to extrapolate the results.

The Malawi schools probably differs both within a region and from one region to another when it comes to knowledge (and attitude) towards animal welfare questions. This means that it is difficult to tell whether the result of the study only counts in these six schools or if the knowledge of and attitude towards animal welfare questions could be extrapolated to other schools in the region. It is also difficult to control the content of each AKC as well as each HL, since the author did not participate in the club meetings nor the classes conducted by the LSPCA teacher.

Potential biases

In one of the schools the matron looked at the pre-intervention questionnaire by mistake and her teaching could there for have been influenced by the questionnaire. Another possible source for bias was when the questionnaire was translated from English to Chichewa. This was done by another person than the author, and it is possible that mistakes could have been made. The author was present in the classroom in one of the lectures and in all occasions when the students answered the questionnaire, which could have influenced the children both positively and negatively.

It is always difficult to conduct questions enough challengeable for the participants but at the same time not being too difficult, especially in another country where cultural differences as well as the school systems are different. The questions might have been too difficult for the children, since some of the students gave two different answers about their background information in the pre- and post-intervention questionnaire. A study by Kellert (1984) showed that children between 10 to 13 years of age showed a greater cognitive and factual understanding of animals than did the 6 to 9 years of age, who had a more emotional and affective relationship to animals. The questionnaire did not only evaluate the knowledge of animal welfare, but also the linguistic knowledge, which could explain why the some children misunderstood some of the questions. The adult (over 15 years old) literacy is estimated to be 69 % in Malawi and if it were the same for the participants in this study, that might have had an impact on the results in a way that some of the questions were not properly understood. The ability to think critically was also evaluated, which might not be taught in the Malawian classroom (UNICEF, 2014). It is also difficult to evaluate practical knowledge, for example what a student would actually do in a certain situation in real life, because one can answer one thing and do another in real life. Since the questionnaire involved questions about both

knowledge, attitude and practice, and not just questions about knowledge, it is more likely that the students would actually act in real life as they answered in the questionnaires.

CONCLUSIONS

The conclusion is that the base level of animal welfare knowledge is good regardless of gender, in both HL and AKC group, but the education programs are just improving the knowledge of animal welfare to some extent. The children seem to learn more from the HL than from the AKC and a suggestion is therefore that the AKCs use the curriculum guide provided by the LSPCA and that the LSPCA evaluate the knowledge of the children in the AKCs on a regular basis. There is a link between domestic and animal violence but further studies are recommended to penetrate the subject.

ACKNOWLEDGEMENT

The author would like to thank Edson Chiweta for the help with the data collection, Christopher Zambira for the help with the translation of the questionnaires and the rest of the LSPCA crew for their help and hospitality, Elisabeth Persson for suggesting the study and for being very helpful, Ulf Emanuelson for advises and comments and Sandra Johansson for the outstanding travel company and help with the collection of information.

A special thanks to Karin Alvåsen for the tremendous support and the valuable inputs through the writing process as well as help with the statistics.

Finally the author would like to thank SIDA for the possibility to do this study and for the funding that made it possible.

REFERENCES

- Agresti, A. (2007). *An introduction to Categorical Data Analysis* (second edition). Wiley-interscience, John Wiley & sons, Inc., New Jersey.
- Ascione, F. R. & Weber, C. V. (1996). Children's Attitudes About the Humane Treatment of Animals and Empathy: One-Year Follow Up of a School-Based Intervention. *Anthrozoös*, vol. 9(4), pp. 188-195
- Ascione, F.R., Weber, F.R., Thompson, T.M., Heath, J., Maruyama, M., Hayashi, K. (2007). Battered pets and domestic violence: animal abuse reported by women experiencing intimate violence and by nonabused women. *Violence against women*, vol.13 (4), pp. 354-73.
- Augustsson, G. & Boström, L. (2012). A theoretical framework about perspectives and leadership styles in the didactic room. *International Journal of Humane Recourse studies*, vol.2, nr 4
- Burgess-Jackson, K. (1998). Doing right by our animal companions. *The Journal of Ethics*, vol. 2, pp. 159–185.
- Coleman, G. J., Hemsworth, P. H., Hay, M. & Cox, M. (2000). Modifying stockperson attitudes and behavior towards pigs at a large commercial farm. *Applied Animal Behaviour Science*, vol. 66, pp. 11-20
- Dowaliby, F.& Schumer, H. (1973). Teacher-centered versus student-centered mode of college classroom instruction as related to manifest anxiety. *Journal of Educational Psychology*, Vol 64(2), pp. 125-132.
- Dunn, R. (1984). Learning Style: State of the Science. *Theory into Practice*, vol. 23 (1), pp. 10-19.
- Dunn, R., Zenhausern, R. et al. (1990). Cross Cultural Differences in Learning Styles. *Journal of Multicultural Counseling and Development*, vol. 18, pp. 68-93.
- Faver, C.A. (2010). School-based humane education as a strategy to prevent violence: Review and recommendations. *Children and Youth Services Review*, vol. 32 (3), pp. 365-370.
- FAWEC (2012). *What is Animal Welfare?* <http://fawec.org/download/I-what-is-animal-welfare.pdf>. [2014-10-09].
- Felder, R.M. & Brent, R. (2004). How to evaluate teaching. *Chemical Engineering Education*, vol. 38(3), pp. 200-202.
- Felder, R.M. & Silverman, L.K. (1988). Learning and teaching styles in engineering educations. *Engr. Education*, vol 78 (7), pp. 674–681.
- Fleming, N.D. & Mills, C. (1992). Not Another Inventory, Rather a Catalyst for Reflection. *To Improve the Academy*, Vol. 11, p. 137.

- Gumucio S. (2011). *The KAP survey model*.
<http://www.medecinsdumonde.org/content/download/1772/13753/file/6c27001736f069d23fab6b06b30ee3a1.pdf>. [2014-02-10]
- Hemsworth, P. H., Coleman, G. J., Barnett, J. L., Borg, S. & Dowling, S. (2002). The Effects of Cognitive Behavioral Intervention on the Attitude and Behavior of Stockpersons and the Behavior and Productivity of Commercial Dairy Cows. *Journal of Animal Science*, vol. 80 (1), pp. 68-78.
- Herzog, H.A. (2007). Gender Differences in Human-Animal Interactions- A Review. *Anthrozoös*, vol. 20 (1).
- Holmberg, C. (2004). *Med husbondens röst – Om våld mot djur i misshandelsrelationer*. Första upplagan, Kabusa böcker, Ystad, pp. 10-13.
<http://sesambandet.files.wordpress.com/2013/03/med-husbondens-rc3b6st.pdf>. [2014-11-19].
- Hoyt, D.P. & Pallett, W.H. (1999). Appraising Teaching Effectiveness: Beyond Student Ratings. *IDEA Center*, IDEA Paper no. 36.
- Hughes, J.N. & Kwok, O. (2006). Classroom engagement mediates the effect of teacher–student support on elementary students’ peer acceptance: A prospective analysis. *Journal of School Psychology*, vol. 43(6), pp. 465–480.
- Institute for Humane Education. (2014). *What is Humane Education?*
<http://humaneeducation.org/become-a-humane-educator/what-is-humane-education/>. [2014-11-19].
- Kellert, S. R. (1984). Attitudes towards animals: Age Related Development Among Children. *Advances in Animal Welfare Science*, vol.85, pp. 43-60.
- Knobel, D.L., Cleveland, S., Coleman, P.G., Fèvre, E.M., Meltzer, M.I., Miranda, M.I., Shaw, A., Zinsstag, J., Meslin, F.X. (2005). Re-evaluating the burden of rabies in Africa and Asia. *Bulletin of the World Health Organization*, vol. 83(5), pp. 360–368.
- Krampe, A. & Kuhnt, S. (2005). Bowker's Test for Symmetry and Modifications within the Algebraic Framework. *Technical Report*. Universität Dortmund, SFB 475
 Komplexitätsreduktion in Multivariaten Datenstrukturen, No.29.
- Lakestani, N., Donaldson, M. L., Verga, M. & Waran, N. (2011). Attitudes of children and adults to dogs in Italy, Spain, and the United Kingdom. *Journal of Veterinary Behavior*, vol. 6, pp. 121-129.
- LSPCA, Lilongwe Society for the Protection and Care of Animals (2014). *Background and Organisation Overview*. <http://www.lilongwespc.org/index.php/about-us/about-lspca>. [2014-02-09 + 2014-10-10].

- Lunney, M., Jones, A., Stiles, E. & Waltner-Toews, D. (2011). Assessing human-dog conflicts in Todos Santos, Guatemala: bite incidences and public perception. *Preventive Veterinary Medicine*, vol. 102(4), pp. 315-20.
- Mariti, C., Papi, F., Mengoli, M., Moretti, G., Martelli, F. & Gazzano, A. (2011). Improvement in children's humaneness toward nonhuman animals through a project of educational anthrozoology. *Journal of Veterinary Behavior*, vol. 6 (1), pp. 12-20.
- McElfresh, T.A. (2013). An Integrative Psychotherapy approach to Education: Relational Needs in the Classroom. *International Journal of Integrative Psychotherapy*, Vol. 4, No. 2.
- McKeachie, W.J. (1997). Student Ratings: The Validity of Use. *American Psychologist*, vol. 52 (11), 1218-1225.
- Nilsson, M. (2014). Effect on rabies education program on rabies awareness, attitudes towards dogs and animal welfare among children in Lilongwe, Malawi. *Epsilon*, Examensarbete 2014:26.
- Office International des Epizooties, OiE. (2014). *Terrestrial Animal Health Code, Section Animal Welfare, Chapter 7.7*.
http://www.oie.int/fileadmin/Home/eng/Health_standards/tahc/2010/en_chapitre_aw_stray_dog.htm. [2014-11-19].
- Ripple Africa (2010-2012). *General Information About Education in Malawi*.
<http://www.rippleafrica.org/education-in-malawi-africa/general-education-in-malawi-africa>. [2014-12-20].
- SAS Institute Inc, Cary, NC, USA (2014).
- Serpell, J.A. (2008). On measuring progress in Animal Welfare (Report for the World Society for the Protection of Animals). *Center for the Interaction of Animals & Society, School of Veterinary Medicine, University of Pennsylvania, Philadelphia*.
- Smolkovic, I., Fajfar, M. & Mlinaric, V. (2012). Attachment to pets and interpersonal relationships. *Journal of European Psychology Students*, vol. 3, pp. 1-10.
- Spiegel, I. B. (2000). A Pilot Study to Evaluate an Elementary School-based Dog Bite Prevention program. *Anthrozoös*, vol. 13(3), pp. 164-173.
- The World Bank Working Paper (2010): *The Education System in Malawi*. Pp. 55-60.
http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/Education_System_Malawi.pdf. [2014-11-04].
- Transparency International (2012): *Overview of corruption in Malawi*.
<http://www.u4.no/publications/overview-of-corruption-and-anti-corruption-in-malawi/> [2015-01-08].

- UNESCO. (2014). <http://www.uis.unesco.org/DataCentre/Pages/country-profile.aspx?regioncode=40540&code=MWI>. [2014-11-04].
- UNICEF. (2014). http://www.unicef.org/infobycountry/malawi_statistics.html. [2014-11-19].
- US Embassy, Lilongwe, Malawi. (2014). http://lilongwe.usembassy.gov/advising_services6.html. [2014-11-04].
- Utrikesdepartementet. (2010). *UD:s rapporter om mänskliga rättigheter*. <http://www.manskligarattigheter.se/sv/manskliga-rattigheter-i-varlden/ud-s-rapporter-om-manskliga-rattigheter/afrika-och-soder-om-sahara?c=Malawi>. [2014-11-30].
- Utrikespolitiska institutet, Landguiden. (2014). *Malawi*. <http://www.landguiden.se/Lander/Afrika/Malawi>. [2014-02-09].
- Wagner, M. (2014). Humane Education: Perspectives of Practitioners on Program Evaluation Efforts and Analysis of Changes in Knowledge, Attitudes, and Empathy in Two Violence Prevention and Intervention Programs. *Antioch University, Dissertations & Theses*, pp. 1-4, 208-226.
- Available: <http://aura.antioch.edu/etds/140> [2014-11-25].
- Walton-Moss, B. J., Manganello, J., Frye, V., & Campbell, J. C. (2005). Risk factors for intimate partner violence and associated injury among urban women. *Journal of Community Health*, vol. 30(5), pp. 377-89.
- World Animalnet. (2014): *Humane Education*. <http://worldanimal.net/our-programs/humane-education>. [2014-10-19].

Personal communication

- Christopher Zambira, teacher at the Lilongwe Society for the Protection and Care of Animals (September, 2014).
- Edson Chiweta, staff at the the Lilongwe Society for the Protection and Care of Animals (September, 2014).

APPENDIX

Name

Class

School

Date

Questionnaire about animal welfare

Background data

1. How old are you?/ Muli ndi zaka zingati?

2. Are you a boy or a girl? Ndinu Mnyamata kapena mtsikana?

3. Do you have any animals in you family? ? Muli ndi ziweto zilizonse kunyumba kwanu?

Yes/Eya

No/Ayi

4. Do you like animals?? Mumakonda kusunga nyama?

Yes/Eya

No/Ayi

5. Have you participated in any *animal welfare* education program before?/Kodi

Mudaphunzirapo zakasamalidwe ka nyama/ziweto?

Yes/Eya

No/Ayi

Knowledge

1a. Do animals need to have clean food and water everyday?/ Kodi nyama zimafunika kuti zikhale ndi madzi awukhondo ndi chakudya chabwino?

Yes/Eya

No/Ayi

It depends on the type of animal/zimatengera ndi nyama zake

I don't know/sindikudziwa

APPENDIX

b. Explain why you answered the way you did in question 1? Please choose one of the following by putting a cross in the box next to the sentence that suits your opinion the best:/ mchifukwa chiyani munayankha choncho funso lapamwambali? Chonde sankhani yankho limodzi pozunguza yankho lanu

Because it's a necessity and a basic need/ Chifukwa choti mchofunikira kwambiri

Because they can manage without clean water and fresh food/ Chifukwa nyama zikhoza kukhala ndi moyo wosamwa madzi abwino kapena kudya chakudya chabwino

Some animals need fresh water and food everyday, others can be without it a couple of days/ Chifukwa chakuti nyama zina zimafuna madzi ndi chakudya chabwino pamene zimene zingathe kukhala masiku ambiri osadya

I don't know/ sindikudziwa

2a. Do you think that an animal can feel any pain? / kodi mukuganiza kuti nyama imamava kupweteka?

Yes/Eya

No/ayi

Maybe/Mwina

I don't know/sindikudziwa

b. Do you think animals feel the same pain as you can feel?/Kodi mukuganiza kuti nyama zimamva kupweteka ngati momwe anthu timamvelera?

Yes/Eya

No/ayi

Maybe/Mwina

I don't know/sindikudziwa

3. Can animals have the same diseases as humans?/ Kodi nyama zimadwala matenda wofanana ndi a anthu?

Yes/Eya

No/ayi

Maybe/Mwina

I don't know/sindikudziwa

APPENDIX

4. What is a castration/neutering and spaying? Please choose one of the following by putting a cross in the box that suits your opinion the best:/ Kodi kuthena ndi kufula mchiyani, sankhani yankho limodzi lolondora?

Spaying is the surgical removal of the female reproductive organs and Castration/neutering is a surgery which removes the testicles of an animal so that he can no longer reproduce./ Kufula ndikuchotsa chiwalo coberekera cha galu wamkazi pamene kuthena ndikuchotsa chiwalo cha galu wa mamuman choberekera

Castration/neutering is the surgical removal of the female reproductive organs and Spaying is a surgery which removes the testicles of an animal so that he can no longer reproduce/ kufula ndikuchotsa chiwalo choberekera cha mwamuna pamene kuthena ndi kuchotsa chiwalo choberekera cha mkazi

Spaying is the surgical removal of the tale of a female dog. Castration/neutering is the same surgery but performed on a male dog./ kuthena kapena kufula ndikuchotsa mchira wa galu wamkazi kapena wammuna

5. If an animal gets sick or is wounded what should you do about it? Please choose one of the following by putting a cross in the box next to the sentence that suits your opinion the best:/ Kodi galu wanu atadwala kapena kuvulala, mungatani? Sankhani yankho lokhoza

Take it to the veterinary/ kuyitengera ku veterinale

Not do anything because it's not my problem/ sindingachite chilichonse chifukwa sivuto langa

Call for help or get help.Kupempha chithandizo

I don't know/ sindikudziwa

Attitude

1. Have you ever experienced any violence against any person or family members in your home?/

Kodi mudayamba mwawonapo wina aliyense atachitilidwa nkha mbanja mwanu?

Yes/Eya

No/Ayi

APPENDIX

2. Have you ever experienced any violence against any animal in the street or in your home?/kodi mudayamba mwaonapo nyama iliyonse itachitidwa nkhanza mumsewu ?

Yes/Eya

No/Ayi

3. Do you think it's good to vaccinate your pet?/Kodi mukuwona kuti ndi bwino kubaita katamera galu wanu

Yes/Eya

No/Ayi

Maybe/Mwina

I don't know/sindikudziwa

4. Do you think it is good to castrate your pet? Kodi mukuwona kuti ndi bwino kuthena galu wanu?

Yes/Eya

No/Ayi

Maybe/Mwina

I don't know/sindikudziwa

5. Do you think it's ok to kick or hurt an animal when it's coming close to you? / Kodi mukuganiza kuti mzosalakwika kumenya kapena kuvulaza galu pamene pamene wakuyandikirani?

Yes/Eya

No/Ayi

Maybe /Mwina

I don't know/sindikudziwa

Indicate where you stand regarding the following questions by putting a cross in the box next to the sentence that fits you the best: sonyezani mbali yanu pa zimene mukuganiza pa zinthu izi pochonga yankho lolondola

6. All animals need fresh food and water/ Nyama zonse zimafuna madzi ndi chakudya chabwino

I strongly agree/ ndikugwirizananazo kwambiri

I agree /ndikungogwirizana nazo

I somewhat agree/ ndikugwirizananazo pang'ono

I don't agree at all/ sindikugwirizana nazo

APPENDIX

7. Animals can *not* feel any pain/ nyama sizimva kupweteka

I strongly agree/ ndikugwirizananazo kwambiri

I agree /ndikungogwirizana nazo

I somewhat agree/ ndikugwirizananazo pang'ono

I don't agree at all/ sindikugwirizana nazo

8. Do you think you would catch diseases by petting an animal?/ Kodi mukuganiza kuti mungatenge matenda pomugwiragwira galu?

Yes/Eya

No/Ayi

Maybe/Mwina

I don't know/sindikudziwa

Practice

What would you do in the following situations. Choose one of the following by putting a cross in the box next to the sentence that suits your opinion the best: Kodi zitachitika izi mungatani?

1. If you see a sick or injured animal in the street? Ngati mutawona nyama yodwala kapena yovulala mumsewu?

I would try to take it to the veterinary or call the veterinary if the animal is afraid or seems dangerous/ ndikhoza kuyitengera ku veterinale kapena kuyitana a veterinale ngati nditawona kuti ndiyoopsya

I would leave it there because it is not my problem and the animal can be dangerous/ ndikhoza kungoyisiya pompo chifukwa sivuto langa komanso nyama ndi zoopsyia

I would walk up to it and see what kind of injury it has and try to help it as good as I can/ ndikhoza kuyiyandikira ndikuwona kuti yavulala motani mkuyithandiza.

APPENDIX

2. If the veterinary offers to vaccinate or castrate your pet, would you let him or her do it? Ngati

a veterinale atakupemphani kuti afuna athene galu wanu, kodi mungawalore kutero?

No, because it is dangerous and vaccination doesn't work./ Ayi chifukwa mzoopsya ndipo katemera sagwira

Yes, but I would just let the veterinary vaccinate my animal./ Eya koma ndikhoza kungowalora a veterinale kuti abaye katemera

Yes, but I would just let the veterinary castrate my animal./ Eya koma ndikhoza kungofuna a veterinale athene nyama yanga

Yes, I would let the veterinary do both if it is possible./ eya ndikhoza kulora a veterinale abaye katemera ndi kuthena

3. Your animal is being disobedient and doesn't cooperate?/ Ng'ombe yanu kapena galu wanu

sakukumverani

I would try to learn more why it is disobedient and try to understand it's basic needs/ndikhoza kuyesetsa kudziwa chifukwa chimene nyamayo sikundimvera

I would pull the chain (if it has one) really hard and yell at it until it stopped/Ndikhoza kukoka chingwe kwambiri

I would not do anything because the animal doesn't understand anything anyway/ palibe chimene ndingachite chifukwa nyama sidziwa chilichonse

I would beat it until it cooperates/ ndikhoza kuyimenya mpaka iyambe kundimvera

THE END/MAFUNSO ATHERA PANO

THANK YOU VERY MUCH/ ZIKOMO KWAMBIRI