

CHAPTER FOUR: RESULTS

In this study, I explored the ways in which credentialed educators conceptualized, understood, and perceived humane education, as well as their intent to include humane education in personal practice and their knowledge of strategies for integrating humane education concepts into their classroom work. The results of the study are presented in this chapter. The five research questions reflect the emphasis of the study, which was to identify how professional development assists credentialed educators in understanding, valuing, utilizing humane education concepts in their pedagogical practice, and factors that influence intent to include.

Research Questions

The following research questions were addressed in this study:

1. In what ways do educators' conceptions and understanding of humane education change as a result of professional development?
2. In what ways do educators' individual perceptions of the value of humane education change as a result of professional development?
3. In what ways do educators' intent to include humane education concepts in personal pedagogical practice change as a result of professional development?
4. In what ways do educators' knowledge of strategies for integrating humane education into a classroom change after professional development?
5. What factors predict the intent to include humane education in the professional practice of a credentialed educator?

Demographic Information

The population of participants in this study included credentialed teachers, administrators, and librarians from a variety of states in the United States, British Columbia, and Vietnam. Twenty-five educators took part in the pre- and post-survey, as well as the professional development course. The largest number of participants, as shown in Table 1,

came from educators certified in Pennsylvania ($n = 3$, 12%), with two educators each from Arizona, British Columbia, Maryland, North Carolina, and New York ($n = 2$, 8%), and one each from California, Connecticut, Florida, Georgia, Illinois, Louisiana, Massachusetts, New Jersey, Ohio, Utah, Wisconsin, and Vietnam ($n = 1$, 4%). Most educators were currently teaching in the same state in which they held certification (see Table 2). One difference noted is that the educator certified in New Jersey was currently teaching in Maryland.

Table 2

State or Country Issuing Participant Certification

State or Country	<i>n</i>	%
PA	3	12.0
AZ	2	8.0
British Columbia	2	8.0
MD	2	8.0
NC	2	8.0
NY	2	8.0
CA	1	4.0
CT	1	4.0
FL	1	4.0
GA	1	4.0
IL	1	4.0
LA	1	4.0
MA	1	4.0
NJ	1	4.0
OH	1	4.0
UT	1	4.0
WI	1	4.0
Vietnam	1	4.0
Total	25	100.0

Table 2

State in which Participant was Teaching

State	<i>n</i>	%
PA	3	12.0
MD	3	12.0
AZ	2	8.0
British Columbia	2	8.0
NC	2	8.0
NY	2	8.0
CA	1	4.0
CT	1	4.0
FL	1	4.0
GA	1	4.0
IL	1	4.0
LA	1	4.0
MA	1	4.0
OH	1	4.0
UT	1	4.0
WI	1	4.0
Vietnam	1	4.0
Total	25	100.0

As shown in Table 3, the highest percentage of participants were secondary educators ($n = 11, 44.0\%$) who taught grades 7-12. The next highest group of participants were primary educators ($n = 10, 40\%$), who taught grades K-6.

Table 3

Roles of Participants

Role	<i>N</i>	%
Secondary (7-12)	11	44.0
Primary (K-6)	10	40.0
Substitute	2	8.0
Administrator	1	4.0
Librarian	1	4.0
Total	25	100.0

Seventeen of the participants taught multiple grades (70.8%), with two participants each teaching grade five, grade seven, and acting as a substitute teacher (8.3%). One participant was an administrator (4.2%); (see Table 4). Ten of the educators primarily taught language arts (41.7%), with 4 (16.7%) reporting that they taught science, and 3 (12.5%) responsible for teaching character education (see Table 5). Secondary subjects (Table 6) taught by participants included language arts ($n = 3$, 27.3%), social studies ($n = 2$, 18.2%), and technology ($n = 2$, 18.2%).

Table 4

Grades Taught by Participants

Participant Grades	<i>n</i>	%
Multiple Grades	17	70.8
5 th	2	8.3
7 th	2	8.3
Substitute	2	8.3
Administration	1	4.2
Total	24	100.0

Table 5

Primary Subjects Taught by Participants

Subjects	<i>n</i>	%
Language Arts	10	41.7
Science	4	16.7
Character Education	3	12.5
Special Education	2	8.3
Administration	1	4.2
Art	1	4.2
Math	1	4.2
Substitute	1	4.2
Theater	1	4.2
Total	24	100.0

Table 6

Secondary Subjects Taught by Participants

Subjects	<i>n</i>	%
Language Arts	3	27.3
Social Studies	2	18.2
Technology	2	18.2
Character Education	1	9.1
Science	1	9.1
Special Education	1	9.1
Math	1	9.1
Total	11	100.0

State Requirement

When participants were asked to report whether or not they were required by their state or country to provide instruction in humane education, 12 (48%) reported that there was no requirement, and 9 (36%) reported that they were unsure if there was a requirement or not. Only 4 (16%) reported that they were required to teach a form of humane education. Upon review of the state laws or mandates in the states in which participants were teaching, in reality, 8 participants were teaching in states that required instruction in humane education, and 14 taught in states where there was no requirement. Two of the states with no requirement, Louisiana and Wisconsin, allow for optional humane education instruction (Humane Education Advocates Reaching Teachers, n.d.).

State requirements or mandates.

The teaching of humane education is required or allowed by mandate in 15 states. Each state has varying rules; some states, such as Pennsylvania, require humane education

only up until grade four. Other states with a law or mandate focus their law on only one component of humane education. For example, Tennessee law includes a description that environmental education resources will be made available to teachers (HEART, n. d.). Study participants from the United States showed a limited knowledge of state humane education requirements. Of the 25 educators in the study, 22 were from the United States. Eight participants were from states that had a humane education requirement, yet only 4 reported any type of humane education requirement.

When participants were asked if a law or mandate should exist to support humane education, reactions were mixed. One administrator noted,

Laws or mandates that have nothing backing them are basically worthless. In my state, most teachers have no idea that most mandates exist. If there is not standardized test or possible financial implication, schools don't feel required to pay attention to it.

An elementary teacher felt that humane education was essential and stated,

I feel humane education is important and should be part of our training and required by law. Most of us became teachers to help students and this is one strategy that is left out of our of college courses.

A secondary educator was undecided about mandated humane education,

Our schedule is so busy that to require something else might mean that we have to give up time for another subject. I agree that there is a way to incorporate humane education into various subjects and think professional development to help teachers learn to include humane education in that manner might be most effective. I am afraid that if a mandate is passed it will be problematic.

Humane education laws and mandates as they exist have few penalties and are a statement of legislative support. None of the current laws or mandates has financial backing; in fact, California describes that the State Board of Education shall add components of prosocial education including animal welfare education and anti-hate education "as long as the board's actions do not result in a state mandate or an increase in costs to a state or local

program” (California Education Codes, n. d.). Educators are not required to learn about humane education, nor do states show support for existing mandates. This does not support professional development related to prosocial activities.

Answers to Research Questions

The purpose of the study was to evaluate the effectiveness of an online class designed to facilitate in-service teachers’ inclusion of humane education in their classroom teaching. Educators’ conceptions, understanding, and perceptions of the value of humane education, as well as their intent to include humane education concepts, and their knowledge of strategies for integrating humane education before and after the online class were examined. Educators received a pre-survey (see Appendix E) prior to the instruction. They then engaged in an eight-week humane education intervention. Throughout the course, Standards for Success in Humane Education, participants took part in on-line discussions and assignments that allowed them to share their knowledge and ideas with the instructor and classmates. A post-test (see Appendix F) was also given to assess these four areas at the end of the class. This information was also analyzed. This section includes details about how data were generated for each research question.

Changes in Educators’ Conceptions and Understanding of Humane Education

Research Question 1 was, “In what ways do educators’ conceptions and understanding of humane education change as a result of professional development?” Participants grew significantly in their familiarity with humane education based on results of a paired-samples *t* test from the pre-survey ($M = 4.08$, $SD = 1.06$) to the post-survey ($M = 4.54$, $SD = .51$), $t(23) = -2.41$, $p = .024$, Cohen’s $d = .55$. In the pre-survey, 18 of the participants (72%) reported that they strongly agreed or agreed that they were familiar with

humane education. Post-survey results showed that 24 participants (100%) reported that they strongly agreed or agreed that they were familiar with humane education (see Table 7).

Table 7

Familiarity with Humane Education at Pre-Survey and Post-Survey

Scale	Pre-Survey		Post-Survey	
	<i>n</i>	%	<i>n</i>	%
Strongly Agree	11	44.0	13	54.2
Agree	7	28.0	11	45.8
Neither Disagree or Agree	4	16.0	0	0.0
Disagree	3	12.0	0	0.0
Strongly Disagree	0	0.0	0	0.0
Total	25	100.0	24	100.0

Prior to the intervention, which was the humane education professional development course, Standards for Success in Humane Education, educators were asked to define humane education in their own words. Each response was reviewed and compared with the definition of humane education used by the Humane Literacy Coalition and defined by the National Association of Humane and Environmental Education as teaching “compassion, a sense of justice, and a respect for all living creatures” (Savesky & Malcarne, 1981, p. iii). For the purpose of the survey, this was considered compassion and kindness to people, animals, and the environment. In the pre-survey results, 32% ($n = 8$) of the educators included the full spectrum of humane education in their definition, including components of compassion and respect for people, animals, and the environment. Twenty-four percent ($n = 6$) described the importance of compassion, respect, and empathy as a tenet of humane education; however,

they did not define the scope of the educational reach. Individuals who defined humane education as kindness and compassion to only animals in the pre-survey made up 24% ($n = 6$) of the participants, with 8% ($n = 2$) of participants defining humane education as teaching compassion to people and animals or compassion to animals and the environment. (See Table 8.)

Post-survey results indicated growth in the understanding of humane education, with 20 (80%) participants defining humane education as the teaching of kindness and compassion to people, animals, and the environment. While 18 participants (72%) may have initially reported in the pre-survey that they “strongly agreed” or “agreed” that they were familiar with humane education, 10 participants (40%) noted a change or growth in their definition after completing the first course assignment.

Table 8
Participants’ Definitions of Humane Education at Pre-Survey and Post Survey

Definition Components	Pre-Survey		Post-Survey	
	<i>n</i>	%	<i>n</i>	%
People, Animals, and the Environment	8	32.0	20	80.0
Animals	6	24.0	0	0.0
Compassion, Respect, and Empathy	6	24.0	0	0.0
Animals and the Environment	2	8.0	0	0.0
People and Animals	2	8.0	3	12.0
People and the Environment	1	4.0	2	8.0
Total	25	100.0	25	100.0

In the week one assignment, participants were asked to reflect on the definition of humane education that they provided in the pre-survey. Participants read journal articles and stories from educational publications which provided a variety of professional views of humane education and related prosocial topics. The assignment was looking to see if educators felt their definition of humane education stayed the same or changed in any way.

One educator noted that her definition may have included all components of humane education, but that she did not necessarily weave each piece together in the way they impacted one another.

Up until reading the articles, I had thought of myself as an “all-inclusive” humane educator who not only teaches the welfare of our animals, but also in making that connection to peace and environmental education. This has helped me to see that humane education is perhaps more of a gestalt whereby all of the pieces come together to create the wholeness of compassion for life.

Humane education, for the purpose of this study, is inclusive of animal welfare education, environmental education, and social justice or civic education. Environmental education was a component that two secondary educators indicated that they did not include in the initial definition.

I believe I had done a fairly good job with the various components of humane education, but believe I could have included the component of environmental education into my definition.

After reading this week, my initial definition of humane education has not only been reaffirmed, but expanded. My initial definition was how humane education is the teaching of kindness, fairness, and social justice for all, but now it has been expanded to also include the teaching of environmental education. I personally have learned the connection between animal welfare and sustainable development, but I didn't initially include that in my definition.

Similarly, even those who taught components of humane education felt that they would add to their lessons. An elementary educator stated that she created lessons that were

age-appropriate and focused on the positive components of animal welfare education, but that she could include more topics in her lessons.

After reading this section, I am not so sure I am doing all I can. I have always focused on the “positive” side of animal rights and teaching that animals have feelings like us—treat them as you want to be treated yourself.

The definitions and descriptions of humane education provided in the course assignments were broader than participants anticipated. Two participants indicated that they felt their initial definitions were complete and then realized that they may have left components out of their pre-survey definitions.

The content actually expanded my incomplete definition. The readings truly reaffirmed and expanded my thoughts. Its endless boundaries reach those of each ocean, each child’s tear at a lost puppy, each mother cow’s cry at her newborn calf.

I initially felt my definition of humane education was on track. After doing the readings, my interpretation of this subject matter was propelled into further immeasurable bounds.

One elementary school teacher shared the overwhelmed feeling she had when she first realized that humane education was more than animal welfare education.

Wow, humane education is a lot more than I first thought. I never even thought about saving the oceans, rainforests, etc. . . . It’s a little overwhelming, to tell you the truth.

Changes in Educators’ Value of Humane Education

Research Question 2 was, “In what ways do educators’ individual perceptions of the value of humane education change as a result of professional development?”

In the pre- and post-surveys, participants were asked to describe the value they placed on humane education, as well as to describe their feeling of importance for incorporating humane education into classroom work. Questions in the surveys were Likert Scales in which participants could strongly agree, agree, neither agree or disagree, disagree, or strongly

disagree. Additionally, during this week, three discussion questions were posed to students asking them to share how humane education connects to academic and community work.

As shown in Table 9, participants' feelings that humane education was an important inclusion in classroom lessons did not change significantly, on a paired-samples t test from the pre-survey ($M = 4.67$, $SD = .56$) to the post-survey ($M = 4.83$, $SD = .51$), $t(24) = -1.45$, $p = .162$, Cohen's $d = .33$. In the pre-survey, when asked whether humane education was important as part of regular lessons, a majority of participants reported that they agreed ($n = 4$; 16.7%) or strongly agreed ($n = 20$, 83.3%).

Table 9

Extent Participants Agree on the Importance of Incorporating Humane Education into Classroom Lessons

Scale	Pre-Survey		Post-Survey	
	<i>n</i>	%	<i>n</i>	%
Strongly Agree	20	83.3	18	72.0
Agree	4	16.7	6	24.0
Neither Agree or Disagree	0	0.0	1	4.0
Disagree	0	0.0	0	0.0
Strongly Disagree	0	0.0	0	0.0
Total	24	100.0	25	100.0

The participants were inclined to value humane education before they began the course. In fact, 22 of the participants (88%) focused on the importance and value of humane education as part of regular classes in the week one assignment. Additionally, 12 (48%)

described how humane-themed topics could assist students in connecting academics to real-world situations.

When participants were asked how humane education connects to academic and community work in the week three assignment, participants noted ways in which humane-themed topics such as animal welfare or social justice issues built into comprehensive education increased understanding of how theoretical academic topics connect to real community and global concerns:

Humane education is not a limited process; it is expressed throughout the lives of the learners. Instead of telling students what to do, we should show them and let them experience and understand. It takes place every day in our life and is always there.

One of these participants asked why the inclusiveness of the ecopedagogy movement was not embraced in the United States.

Note the inclusive ecopedagogy movement most associated with the work of Paulo Friere. It is being so accepted in third world countries. Why is this so controversial in America?

Another educator described how humane education could help students connect to the subject matter in an effective way.

As I read more about sustainable development, I thought about the classes in middle and high school that seem abstract, theoretical, and disconnected from anything else. How much more could resonate with students if connected to the real world?

In weeks one and three, 8 (32%) other participants described how humane education and moral development are a natural part of the work they were doing. One elementary educator stated that she includes social and emotional learning in her lessons.

As an early childhood educator, much of my job is to build socio-emotional development into other learning domains. I also believe that young children are social learners, and by providing them with positive experience in social grouping,

school, etc., you can create new schemas for children—within a specific cognitive growth time frame.

A secondary teacher identified inquiry-based teaching as a partner to humane education and that it allows for stronger teaching and less indoctrination.

Often times, it seems humane ideas are already well incorporated into mainstream curriculum, without it being declared “humane education.” Inquiry-based learning, for example, allows children to learn social concepts in an interactive manner. I enjoy that it allows for multiple perspectives and makes it easier for me, as the teacher, to stray from indoctrination and work towards critical thinking.

Violence

In the week three assignments, educators were provided with an example of a student who did not receive basic care at home and who did not receive modeling of humane behaviors at home. Participants were asked to use their knowledge of education and critical thinking versus indoctrination to build a classroom social norm that included humane ideas. Discussion focused on the connection between violence to people and animals. Eleven participants (44%) suggested that they had observed the relationship between violence to animals and violence to people in their classroom, and that humane education instruction could be a factor in decreasing the amount of violence in schools or communities. Similarly, participants noted that as classroom teachers, they were in a position to hear children’s stories about how they or others had abused animals. Teachers who are provided with knowledge to recognize the signs of abuse can more readily report animal abuse to the proper agencies or school officials. Two participants who taught only students who were labeled “at-risk,” noticed that their students had discussed violent topics.

I work with special education students with emotional and behavioral problems. The way they talk sometimes is quite scary; these kids are textbook examples of the relationship between violence and lack of compassion toward animals.

In my facility, the students are at their last stop before a detention center. Many of them have experienced violence at home, and in the stories they tell, it is obvious that the violence involves the whole family—the adults, the kids, and the pets. These kids have never heard about kindness to others or social responsibility. They are just trying to survive.

Four other participants noted that students who were victims of abuse or witness to violent behavior were more likely to model that violence. The same participants also described the influence that prosocial modeling, or the reinforcement of prosocial actions designed to reinforce positive social and interpersonal skills while negating “pro-criminal actions and expressions,” had on their students (Trotter, 2009, p. 142). The term *prosocial modeling* is also often used to describe a collaborative problem solving and role clarification approach (Trotter, 1999). Prosocial modeling is taught through humane education and encourages prosocial attitudes and behaviors when students see positive actions from their teacher.

One educator noted that his students had learned to be violent too and that humane education was a way to provide prosocial replacement behaviors.

True violent kids have been taught to be violent. In some cases, the individual who acts in an inhumane way is an abuse victim. In other cases, they lack the capacity to feel empathy because of an organic/ real world medical condition. In others, the meanness of the streets taught the individual violence. I work with childhood psychiatric patients. The facility where I work is undergoing a philosophical shift in the way students will be helped. They are actually proposing that the best treatment for psychiatric issues may be prosocial education, so a person with antisocial tendencies is taught replacement behaviors.

One administrator shared an experience from her school that led to student mental health evaluations and which pointed to familial violence.

I believe the aspect of humane education that I feel I might focus on is that of the violence connection. I have experiences with animal abuse by my students, which led to criminal charges and also mental health evaluations. Animal abuse is not only a

personality flaw in an abuser, but is often a symptomatic indicator of a deeply disturbed family. In Arkow's article, we are reminded that there was a call for interagency cooperation in the detection of child abuse and cruelty to animals. As Selby stated in his article, studies have found that the triad of cruelty to animals, bedwetting, and fire-setting in childhood is a strong indicator of likely violent behavior in adulthood.

An elementary school educator indicated that students may share stories of violence in the home through stories in which the family pet or an animal is the main character.

I wonder if, given the strong connection between pet and family violence and the impact on community violence, if humane education is not a great way to talk about such issues without a personal stigma? Meaning, most children who come from homes where there is abuse do not have an outlet to talk about feelings until the problem is brought out directly through outside intervention. By discussing the issue of appropriate care and treatment of animals and resources for those in need, it perhaps gives a child who is suffering a frame of reference and/or a voice.

One educator noted that pets in violent homes are used as pawns to control those in the family who care for the pet.

Many children who live with abuse have their pets used as pawns; threats of violence against their pets if they do not cooperate and the prevalence of incidents of killing animals among the young incarcerated men in prison was startling.

Moral development.

Seventeen educators (68%) discussed humane education as a means to teach value and moral development or modeling of character traits. Six (24%) teachers in assignment two likened the inclusion of humane education in classroom work to that of character and anti-bullying education.

I am especially interested in the social justice aspect of humane education and the link. I agree that bullying is a huge issue, and humane education is an incredible tool to teach people compassion and respect for all.

One elementary educator stated that humane education could help to broaden the work of her character education requirement.

We are supposed to teach character education in our school. Humane education is a perfect fit with the program requirement. In fact, the ideas we are learning are actually broader than what we have done in the past because they bring in not just the importance of kindness to people, but also kindness to animals and the community.

A participant identified humane education as a way to include moral development into classroom work.

I had never really thought about humane education as a moral lesson, but as I read *Morality and Education*, I have to realize that humane education is vast. With compassion and kindness as a start, they [children] are eventually taught what is morally and socially acceptable.

An upper elementary teacher noted that humane education is a way to include both human and non-human animals in anti-bullying and character education lessons.

Humans are not the only ones who can be bullied. Bullying can start with being inhumane in animals. Lessons can be taught how to properly interact with and care for animals. In turn, extension activities about how to properly interact with and care for one another within our classroom, homes and communities can be taught.

Prosocial education frameworks.

In week five, participants were introduced to a variety of prosocial frameworks including humane education, environmental education, peace education, social and emotional learning, service-learning, and experiential learning. Educators were asked to describe how humane education related to the frameworks. Nineteen teachers described the ways in which they felt humane education connected to other frameworks of prosocial development. One elementary educator described why humane education content is important, but that in the past she did not connect it to other frameworks.

It is imperative that humane education programs be incorporated into all education, in my opinion. After working for five years in my school and seeing the need for daily character, I am still not able to even really touch on broader humane education. Impacting lives takes time and consistency and commitment. I see that it will be more important than ever to advocate for connections of frameworks and do what I can to enhance my classroom culture and to share it freely and passionately with my colleagues.

An elementary education teacher noted how a lesson that combined character education, social and emotional learning, and animal welfare education would teach life skills and allow for lessons to be taught in a way that was free of judgment.

I believe a great place where humane education can be included and work wonderfully is within after school programs. When I was a Drug and Alcohol Prevention Director in 2002, I did a character education program in two different housing projects and the kids really enjoyed the lessons. Including animals and not just humans would give the kids a whole new perspective on these lessons and let them work through new behaviors without any of the perceived judgment that might come if told how they have to treat each other. I really do think they would enjoy learning how to work together to take proper care of a pet and in turn, they would be learning valuable life skills.

The frameworks presented in the lesson had related content, and educators noted how themes were woven together. One participant described the similarities between the frameworks of character, humane, and anti-bullying education and noted that each had similar teachings of respect.

In terms of character education and anti-bullying programs, the elements of effective programs are the same as humane education. Character education applies to our relationships with animals as well as people. As teachers, we can build on the lessons that are already part of the components of these other programs. For example, the character trait of respect means following the golden rule and treating others the way we would like to be treated—with courtesy, dignity, and consideration for their feelings and needs. This applies to all non-human animals, as well. Responsibility means thinking ahead about how your actions might affect others and this includes considering if you can give animal companions the care they require before you get them and never have to face getting rid of them. Kindness and care means putting the

needs of others above your own wants and needs and not putting your own wants above the greater good.

A secondary educator who had incorporated social and emotional learning (SEL) into her work stated that SEL and humane education are similar to tenets of character education.

The goals of humane and social and emotional learning (SEL) programs share many of the same skills as the pillars of character education. The goals of SEL programs are to foster the development of self-awareness, self-management, social awareness, relationship skills, and responsible decision making.

Indoctrination and critical thinking

Twenty-one participants (84%) in assignment two, when asked to think about the difference in lessons that indoctrinate and those that do not, described the way in which humane education lessons taught through factual and non-judgmental methods assisted students in developing critical thinking skills. One elementary educator likened critical thinking to students expressing personal concerns and learning how to treat one another.

It encourages people to think critically and question things, which can also be used as a tool towards social action and a better understanding of the world and people around us. It may also be an outlet for young people to express a concern that they may have in their home. Showing the care we should provide to animals and each other through humane education can also be a benchmark for young people to see the potential for how people should be treated.

Two secondary educators noted that lessons that include the facts assist students in understanding all sides of an argument and developing their own opinion.

Be mindful of the facts and ensure that each person listening is able to maintain a subjective viewpoint -- teach the facts and let children make up their own minds.

Providing students with the opportunity to understand what influences their beliefs or gives them a new perspective is what will create change. It is a process of defining personal values and being able to live life to reflect those values.

Another secondary educator outlined how students can work both individually and in pairs or groups to think through moral concerns. The outcome of critical thought will allow students to explain their values.

I think students should be encouraged to work individually to do research themselves, to access the information and the shape their ideas, opinion, and then time to share in pairs, groups. With critical thinking, students will be able to challenge status quo, be aware and tolerant of differences. They then are able to decide on their own the stance they should hold and protect values they consider worthwhile.

Changes in Educators' Intent to Include Humane Education Concepts in Personal Teaching Practice

Research Question 3 was, “In what ways do educators’ intent to include humane education concepts in personal pedagogical practice change as a result of professional development?” Participants were asked in the pre- and post-survey to report if they included humane education in the current classroom work. As shown in Table 10, before the course, 13 of the participants (52%) reported that they included humane education in their classroom work, 8 participants (32%) were unsure if they included humane education, and 4 (16%) reported that they did not include humane topics in their teaching. After learning the definition and components of humane education and upon completion of the course, as reported in the post-survey, 21 participants (87.5%) reported that they did include humane education in their classroom work. During the eight week course, the growth in understanding of how humane education was included in classroom teaching practices was 35.5%.

Table 10

Inclusion of Humane Education at Pre-Survey and Post-Survey

	Pre-Survey		Post-Survey	
	<i>n</i>	%	<i>n</i>	%
Inclusion of Humane Education				
No	4	16.0	2	8.0
Yes	13	52.0	21	87.5
Not Sure	8	32.0	1	4.0
Total	25	100.0	24	100.0

When participants were asked to identify the subjects in which they incorporated humane education content, 12 participants (50%) in the pre-survey reported being unsure if they included humane education in any manner. The main subjects reported in the pre-survey were language arts ($n = 7$, 29%), science ($n = 3$, 12.5%), social studies ($n = 1$, 4.2%), and mathematics ($n = 1$, 4.2%). Upon completion of the professional development course, 21 participants (87.5%) in the post-survey reported that they incorporated humane education content. The main subjects reported in the post-survey were language arts ($n = 62.5%$) and science ($n = 16.7%$). (See Table 11.)

Table 11

Main Subjects in Which Participants Feel They Incorporate Humane Education

Subjects	Pre-Survey		Post-Survey	
	<i>n</i>	%	<i>n</i>	%
Lang. Arts	7	29.2	15	62.5
Science	3	12.5	4	16.7
Social Studies	1	4.2	1	4.2
Mathematics	1	4.2	1	4.2
Art	0	0.0	1	4.2
Unsure	12	50.0	2	8.3
Total	24	100.0	24	100.0

Much like the self-report above, when participants were asked, “Into what subjects or specific lesson topics do you intend to incorporate humane education?”, language arts was the subject most often selected, as seen in Table 12. Pre-survey results indicated that 8 participants (36.4%) intended to incorporate humane education into language arts lessons. The number of participants who intended to include language arts in their work increased in the post-survey ($n = 14$, 60.9%). Through course activities in which participants were asked to brainstorm ways in which they could include humane education in the curriculum, language arts lessons were most often included.

Table 12

Subjects in Which Participants Intend to Incorporate Humane Education

	Pre-Survey		Post-Survey	
	<i>n</i>	%	<i>n</i>	%
Subjects				
Lang. Arts	8	36.4	14	60.9
Science	3	13.6	3	13.0
Social Studies	2	9.1	0	0.0
Math	1	4.5	1	4.3
Physical Education	1	4.5	0	0.0
Art	1	4.5	1	4.3
Unsure	6	27.3	4	17.4
Total	22	100.0	23	100.0

Lesson Planning

In assignment four, participants were asked to create and submit a lesson plan idea in which they combined humane education and academic or standards-based work. The assignment required participants to show ways in which the themes of humane education and an academic subject area could be combined. Participants gained knowledge that empowered them to include humane education in pedagogical and academic content. Fourteen participants (56%) created lessons in which they listed language arts standards as the academic connection. Five participants (20%) created lessons built around science. One secondary educator created a language arts persuasive writing lesson. In her lesson, she taught the content required by her school and allowed students to write about a humane

theme that inspired them. The lesson built critical thinking along with the ability to write a persuasive argument.

Grade 5-8 Persuasive Writing Standard: 1.11: In persuasive writing, students judge, propose, and persuade. This is evident when students:

a. Clearly define a significant problem, issue, topic, or concern.

This standard could be used to apply humane education concepts on so many different levels. Children in grades 5-8 are expected to be able to clearly communicate and describe to others an issue in which they are interested. This could broadly apply to any humane concern, such as farm animal welfare, the fur industry, puppy mills, etc. Continuing the conversation from defining it to discussing why it is a topic of concern would lead directly into the humane education aspect.

A secondary level Connecticut teacher developed a science unit about global warming based upon the Next Generation of Science Standards. This lesson tied in again with required grade-level content and participants were asked to expand their thoughts about environmental changes. In the lesson, she showed her intent to include humane education, as she described how she could allow students to use their voice to work for change if they wished to act as an individual and get involved in species protection.

Grade 8 Science Core Idea LS2 – Ecosystems: Interactions, Energy, Dynamics; LS2.C – Ecosystems Dynamics, Functioning, Resilience

Guiding question: What happens to ecosystems when the environment changes?

Explanation: Many changes are caused by humans—species change, move, or die. Deforestation, pollution, non-native species, and global climate change all impact an ecosystem.

Students will study the changes that are happening in Connecticut (i.e., how weather pattern changes are affecting various species). What can students do as individuals to advocate for change and protection of native species?

In lesson eight, participants were asked to develop a full lesson plan. Twelve participants (48%) developed lessons based around language arts standards. Nine educators

(36%) developed a science lesson, and four (16%) created a math lesson. In this lesson, participants were able to include any tenet of humane education. Nineteen participants (76%) selected animal welfare education. Fifteen of those educators created lessons about companion animal topics, one created a lesson about wildlife, and three created lessons about farm animals. One educator (4%) developed a lesson plan specifically about environmental education and four (16%) selected social justice or civic education.

Intent to include animal welfare topics was a predominant theme. A participant created a lesson about the need to adopt from a shelter based upon the common core math standards.

Grade K Mathematics Common Core Standards

K.CC.6: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Note: Include groups with up to ten objects.)

K.MD.2: Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.

Students will all receive dog or cat counters. The class will be asked to count and assess the number of total dogs and cats and identify the larger group. Students will be asked to arrange their own counters to identify the larger and smaller groups identifying them as those with “more of” or “less of”. Students will then listen to a story about a dog or cat who gets lost and ends up at the local shelter where cats and dogs wait to get adopted or to be found if they get lost. Counting strategies will be used to identify how many dogs or cats can be at the shelter at one time. Students will be asked to identify ways in which they can help the animals at the shelter.

An elementary education teacher developed a wildlife lesson teaching about penguins and the way blubber acts as an adaptation to help them survive in cold climates. This lesson taught both about the needs of wildlife as well as introduced the need to protect their habitat.

Grade 4 Science Commonwealth of Pennsylvania Standards and Anchors

3.1.3.A1 Describe characteristics of living things that help to identify and classify them.

3.1.3.C2 Describe animal characteristics that are necessary for survival.

3.1.4.A2 Describe the different resources that plants and animals need to live.

4.1.4.D Explain how specific adaptations can help organisms survive in their environment.

Students will learn how penguins stay warm because of their blubber. Students will take part in a “blubber bag” activity. Students will then learn about the habitat of penguins and discuss if penguins could live comfortably in another habitat and if humans could live in the penguin habitat.

Lesson plan submissions at the end of the class strongly indicated intent to incorporate animal welfare education, but they also incorporated civic education themes and ways to give students a voice in follow-up activities and discussion about each activity. Ideally, educators would have included all areas of animal welfare, environmental education, and civics education.

Humane Education in the Curriculum

When participants were asked why humane education concepts were not currently part of the school or state curriculum, there was a change in the top reasons from the pre-survey to the post-survey, as seen in Table 13. In the pre-survey, 44% of participants ($n = 11$) stated that the school year or day had too little time to include an additional concept. Upon completion of the course, the post-survey showed that only one participant (4.0%) felt that time was a top reason that humane education is not part of curriculum. In the pre-survey, 6 (24%) participants reported that lack of support in the school ($n = 12$) or district ($n = 4$) was the reason humane education was not present in current practice. Post-survey results indicated that 15 (60.0%) participants felt that lack of support in the school ($n = 11$) or

district ($n = 4$) was the main reason humane concepts were not infused into regular school work or curriculum.

Table 13

Top Reason that Humane Education Concepts are Currently Not Included in the School or State Curriculum

Reasons	Pre-Survey		Post-Survey	
	<i>n</i>	%	<i>n</i>	%
School year or day has too little time	11	44.0	1	4.0
Limited funds to support	5	20.0	5	20.0
Lack of support in the school district	4	16.0	11	44.0
Lack of support in the individual school	2	8.0	4	16.0
Unsure how to implement	2	8.0	2	8.0
Resources are difficult to find	1	4.0	1	4.0
No answer	0	0.0	1	4.0
Total	25	100.0	24	96.0

*Note: One participant did not respond to the question on the post-survey.

Over the eight-week course, 21 participants (87.5%) realized that they were including humane education in their classroom work. Participant understanding of humane education grew, as did their knowledge of ways that support humane education in their pedagogical practice. Educators who received the professional development gained an understanding of

how to incorporate humane education themes into their classroom work, specifically in the area of language arts. The knowledge of lesson planning strategies built around humane education increased their ability to include prosocial topics. Factors that worked against increasing the intent to include humane education were the perceived lack of support from the school or district. Only 15 states mandate or require humane education, and this information is not widely promoted.

Changes in Educators' Knowledge of Strategies for Integrating Humane Education Concepts into a Classroom

Research Question 4 was, "In what ways do educators' knowledge of strategies for integrating humane education into a classroom change after professional development?" Participant knowledge of instructional strategies grew significantly from the pre-survey to the post-survey, as indicated in a paired-samples *t* test from the pre-survey ($M = 3.79$, $SD = 1.02$) to the post-survey ($M = 4.63$, $SD = .49$), $t(24) = -4.24$, $p < .001$, Cohen's $d = 1.04$. As shown in Table 14, in the pre-survey, 52% of the educators in the study ($n = 13$) reported that they strongly agreed or agreed that they had knowledge of strategies for teaching humane education in the classroom. Upon completion of the professional development course, 15 participants (62.5%) reported that they strongly agreed that they were familiar with instructional strategies to teach humane education. Additionally, nine participants (37.5%) reported that they agreed with the statement. Overall, 100% of the 24 reporting participants reported in the post-survey that they had knowledge of instructional strategies that would allow them to teach humane education in the classroom.

Over the course of the eight-week humane education intervention, 100% of the participants reported an increase in knowledge of strategies to teach humane education.

Participant growth indicates that educators are able to infuse humane education into classroom work but have not received the needed professional development.

Table 14

Knowledge of Instructional Strategies to Teach Humane Education in the Pre- and Post-Survey

	Pre-Survey		Post-Survey	
	<i>n</i>	%	<i>n</i>	%
Strongly Agree	8	32.0	15	60.5
Agree	5	20.0	9	35.5
Neither Agree or Disagree	10	40.0	0	0.0
Disagree	2	8.0	0	0.0
Strongly Disagree	0	0.0	0	0.0
No Answer	0	0.00	1	4.0
Total	25	100.0	24	100.0

*Note. One participant did not respond to this question in the post-survey.

Similar to the large percentage of teachers who stated that language arts was the subject in which they planned to include humane education in their work, many of the strategies shared for infusion of humane content into pedagogical practice in Standards for Success in Humane Education were based around literature or other language arts concepts. Nineteen of the participants (76%) based their lessons on language arts or literacy strategies in the assignments for weeks six and eight in which teachers were asked to create lesson ideas. Fifteen of the references were in terms of building critical thinking. Questioning techniques were often incorporated into lesson plans. Two educators described why they selected questioning techniques for their lesson plans.

I think of all the lessons that educators can use, to start the “why” conversation builds great conversations and checking for understanding.

Higher-order thinking questions allow students to come up with their own ideas. Asking questions that reach beyond the “who,” “what,” and “where” helps students explore a variety of reasons for answers different than their own.

Books and stories were a popular method of introducing humane-themed content. Stories allow children to root for the main character and try on new ideas.

There is a great book to teach empathy and the importance of decision making to all ages. The name is *Hey Little Ant*, and it draws comparisons between an ant, his family, and his life, and that of the boy who is about to step on him. It is a wonderful book that can tie into bullying quite easily.

A high school teacher favored Socratic questioning as both a means to model critical thinking and a way to help students work through new content.

Classes taught using discussion and the Socratic approach, therefore using higher order questioning, will promote critical thinking. During Socratic questioning, the teacher is a model of critical thinking.

Three elementary educators (12%) favored student journals as a means to allow students a private way to work through new ideas that may be different than those they have seen or heard in the past.

Journaling and discussion will help students process the new ideas. Each student will receive a personal journal for the lesson and will write about their thoughts as we learn about the idea of non-human animal needs.

Participants built other language arts references into activities that they labeled as having a science standard, but in which students learned the science material through story.

A story starter about wildlife is how I plan to introduce students to the lesson. Students will be asked to complete the story based upon facts they learn about the habitat needs of the wild animal.

Social stories are my go-to choice for presenting humane ideas. Social stories open students up to ideas without pinpointing anyone as the focus.

Nine educators (36%) developed a science-based lesson.

My brain is spinning with lots of hands-on activities . . . to take the students outside for science (environmental-related).

Three participants (12%) created lesson ideas that could be incorporated into school or district-required character education programs.

Include humane education in character education or the School-wide Positive Behavior Support program. This is a system-wide change for more positive behavior in our schools and classrooms. I have practiced humane education concepts in the hallways, bathrooms, playgrounds, and classrooms.

Significant Factors

Direct binary logistic regression was performed to assess the impact of participant factors on the likelihood that respondents would be inclined to incorporate humane education into their personal practice. Data were taken from the pretest survey. The model contained two independent variables of familiarity with instructional strategies allowing them to implement humane education in the classroom (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Disagree or Agree*, 4 = *Agree*, 5 = *Strongly Agree*), and belief that it was important to include humane education in the classroom (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Disagree or Agree*, 4 = *Agree*, 5 = *Strongly Agree*).

The full model containing all predictors was statistically significant, $\chi^2(2, N = 25) = 7.38, p < .05$. The model as a whole explained 25.6% (Cox and Snell R^2) and 34.1% (Nagelkerke R^2) of the variance in planned implementation. As shown in Table 15, the independent variable of whether the participant valued humane education as important before beginning the professional development course made a unique statistically significant

contribution to the model. This predictor of value of humane education as important had an odds ratio of 11.38, and instructional strategies had an odds ratio of 1.68, meaning that those who valued humane education were much more likely to state they would incorporate humane education, while those who were familiar with instructional strategies were somewhat more likely to incorporate humane education.

Table 15

Logistic Regression Using Personal Factors as Predictors

Factor	B	SE	Wald	df	P	Odds ratio
Value humane education as important	2.43	1.23	3.93	1	.048	11.38
Familiar with instructional strategies	.52	.50	1.06	1	.302	1.68

Chapter Summary

The purpose for conducting the study was to examine the extent to which an online humane education professional development course increased the understanding and use of humane education concepts for credentialed educators. The five research questions were presented in this chapter. All 25 participants were asked to define humane education in their own words, to share their perceived value and intent to include humane education in their work, and to share their knowledge of strategies to teach humane concepts. Results were categorized by research question. Each section contained quantitative pre-survey and post-survey data, as well as qualitative data that were coded and analyzed.

Participants were inclined to value humane education before participating in the professional development course. As a result, pre-survey and post-survey responses

indicated little growth in the participants' perception of value of humane education; however, a significant growth in understanding the depth and definition of humane education was seen in the paired-samples *t* tests. Educators showed an increase in their intent to include humane education in classroom work. The most frequently accentuated themes in class discussion were moral development, critical thinking, animal welfare, and the relationship between interpersonal and animal violence, and compassion.

Direct binary logistic regression was performed to assess the impact of the most relevant variables influencing an educator's familiarity with instructional strategies allowing them to include humane education into their personal teaching practice. A personal value of humane education was statistically significant in the model, and strongly predictive of the incorporation of humane education.

Findings described in the study indicated that even among educators who were inclined to teach humane education concepts, the concept was not fully understood at the beginning of the study, and their knowledge of strategies for inclusion within the standards-based or academic classroom was low. Participation in a professional development course allowed educators to develop a community of learners and share strategies to include humane education. The course provided a place for participants to brainstorm lesson planning ideas, as well as discuss the themes or frameworks of humane education that best fit the needs of their community.