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## **Human Rights, Think Aloud Protocols and Magic Drums: Revealing Character in Pre-Service Teachers**

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This paper describes a qualitative study that examined how preservice teachers engaged in a *Second Life* activity intended to help them reflect on how knowledge of human rights may affect their professional practice. This process utilized a problem-solving strategy to determine their goal-oriented character traits. Therefore, the research question explored was, how do preservice teachers create a character that respects human rights? Through a symbolic introspective journey, participants engaged in think aloud protocols to reveal goal-oriented behavior guided by a strong moral compass. Data analysis utilized a means-end process, and results were recorded along two dimensions: stability and change and named insights. The first indicated a general inclination toward a persistent character with goals defined, while the second revealed insights into personal character traits that potentially aid or hinder achieving a goal, and as a result, possibly transfer to real world action.

*Keywords:* virtual environments, human rights, pre-service teachers

In the American education system, success is often measured by standardized results, which puts pressure on teachers to “game the system” of accountability, or what is more commonly known as teaching to the test (Longo, 2010), and by doing so, exposing students to poor instruction (Tanner, 2011). Starko (2013) states that “the United States is running at break-neck speed toward the cliff of total test focus, tossing aside any nonmandated curriculum as we go (p. 54).” Teachers may need explicit vision: to know their moral compass, remain strong and resilient in the face of pressure, and be able to resolve conflicts that arise from it. Teacher preparation should address what teachers need to know and what teachers need to become. Therefore, this study examines the introspective, problem-solving journey of becoming a teacher through a humanitarian philosophy.

## LITERATURE REVIEW AND TEACHING LANDSCAPE

The literature suggests a potential problem in teacher preparation and teaching that frames the need for this study. One may argue that teaching requires a strong code of ethics, given the tremendous influence teachers have over their students. Indeed, many teacher preparation programs espouse teacher dispositions that include ethical conduct, and school districts have their own ethic codes. Indeed, a general Google search yields hits from Texas, Pennsylvania, Georgia, Connecticut, and Florida within the first two pages. It also yields hits for professional educator organizations with professional ethics components. These include the National Association of State Directors of Teacher Education and Certification, the National Education Association, and the Association of American Educators, to name just a few.

Yet, despite the clear importance of ethics in these programs, research studies seem to indicate that this is a problem among teacher candidates. Barrett, Casey, Visser, and Headley (2012) found four factors of ethical behavior, which included violating ethical standards through harm to students, unprofessionalism, blurred boundaries between public and private behavior, and grade subjectivity. Another study suggested that unclear ethics when using computers may potentially lead to unethical conduct (Beycioglu, 2009). Foulger, Ewbank, Kay, Popp, and Carter (2009) also asked preservice teachers where the lines could be drawn for ethical behavior in social media, which brought awareness about the need for guidelines on what constitutes appropriate behavior. A study by Cummings, Maddux, & Harlow (2002) examined moral reasoning and ethical behavior of students in a teacher preparation program and found no statistical significance to indicate that higher moral reasoning affects ethical behavior in a positive way. Unethical behav-

ior was reported regardless of levels in moral reasoning. One study did provide a sense of hope, whereby the preservice teacher held on to her ethical beliefs, even as the challenges were extreme (Ticknor, 2015), but this was a rather alarming exception. The participant in this study was under tremendous school district pressure to conform to practices that went against her social justice perspective.

Studies are limited in this area, perhaps because in recent years, a trend toward social justice frameworks in teacher preparation have attempted to examine the problem of ethical and moral behavior through the larger lens of humanitarian philosophies. Villegas (2007) suggests that a social justice dispositional framework is a complex mixture of required knowledge and skills, which include understanding social and cultural contexts, understanding children, “sophisticated pedagogical expertise”, and learning to critically examine personal belief systems.

## **PHILOSOPHICAL BACKDROP**

This paper would like to propose that human rights should be a centerpiece for service professions like teaching. The United Nations Declaration of Human Rights lists 30 articles, which were set forth in 1948 to make explicit the protections that all people should be afforded. Since then, numerous violations to those human rights have been reported all over the world, so that the belief system behind them has become a list of suggestions rather than non-negotiable imperatives.

Although the Declaration of Human Rights (1948) outlines general life essentials that respect personal dignity, in this study, they provide a focus into emerging professional identities. Of the 30 articles found in the UN Declaration, the 26th one is specific to the right to education, but several others describe basic human dignities that can be respected and reinforced through education: freedom (2), security (3), privacy (12), thought and consciousness (18), and opinion (19). Teachers seeking to respect the human rights of their students, colleagues, and communities, may potentially effect change beyond their classroom walls. Very few professions have as profound an effect on humanity as education, and it is this belief that guides the philosophical backdrop of this study.

While the UN Declaration does not outline a particular framework for action, other than to offer a humanitarian philosophy, some teacher preparation programs are integrating social justice concepts as the catalyst for such actions. Social justice is a framework that translates this respect for human rights into action, in order to protect these rights in a society. Studies of pre-

service teachers within a social justice curriculum have shown development of teacher belief systems and its application to professional work (Martin and Ngcobo, 2015), as well as expressed commitment to equity and social justice (Cochran-Smith, Shakman, Jong, Terrell, Barnatt, & McQuillan, 2009), and integration in music education (Riley, 2009). However, while some teacher preparation programs are attempting to embed social justice frameworks, some studies indicate that results continue to be mixed. Ayali (2017) found that preservice teachers were well versed in the concept of social justice but were reluctant to apply it in the face of prescribed curriculum pressure.

These findings support the need for education that offers ways of learning both the concept of social justice and how this concept can be expressed in real life situations. Virtual world environments are an important new kind of learning experience to explore how to express the conceptual understanding of a subject and find what actions might be possible to perform in real life situations.

## **THE SECOND LIFE MAGIC DRUMS**

The study setting was in Second Life, a customizable, multi-user virtual environment. The researchers set up a “hall” with seven interactive drums, developed by Bennett and Patrice (2013), called “The Magic Drums”. The drums’ purpose was to guide participants through an introspective problem-solving journey that calls upon their imagination to create a character with traits that respect human rights. This was accomplished with symbols from stories, images, and music directed toward human rights. The immersive environment of the drums provided the participants an opportunity to visualize a character in Avatar form, a concept that has been found to reveal identity (Seung-A, 2012; De Leon, 2015). Originally, the Magic Drums were developed to bring awareness to human rights as they apply to healthcare. The authors adjusted this focus to teacher preparation by adapting the content of each drum.

The central drum introduces the goals of the virtual learning instruction to the participant with a virtual copy of the UN’s Declaration of Human Rights to read. The participant is asked to select one article that powerfully connects to their own personal values and professional goals. With this lens in place, the other six drums that circle the central one then take the individual on a guided problem solving path, where the created character sets a goal to respect the human right selected, and then further creates a path to achieve that goal. Figure 1 shows the virtual location of the drums in Second Life.



**Figure 1.** Second Life Magic Drums Hall.

Since the drums were interactive, participants entered the hall with their Second Life avatars, and clicked on each drum for more information and guidance on their goal oriented path of self-discovery.

## METHODS

The need for this study is supported by the belief that given careful introspection and guidance into what constitutes human dignity, a teacher candidate may develop an identity that acts to protect human rights. Therefore, the purpose of this study is to determine to what extent preservice teachers were able to create a goal-oriented character that respects human rights after engaging in the problem solving process.

Fifteen female pre-service teachers enrolled in an undergraduate, teacher preparation social studies methods course gave consent. All participants were in their last semester of coursework, before beginning their student teaching internship in public schools.

### Research Design

This qualitative study utilized the Think Aloud Method (von Someren, Barnard, and Sandburg, 1994) for collecting rich verbal data that mirrors the cognitive processes of problem solving. Because cognitive processes are internal, using think aloud protocols encourages their externalization through spontaneous and nonspontaneous talking out loud. These think aloud pro-

tocols can be recorded using interviews and written journaling, and studies have used both to better understand problem solving (Ge and Land, 2003; Henderson, Henderson, Grant, and Huang, 2010). This method has also been suggested to provide the appropriate lens for studies in virtual environments, given that avatars offer a potentially richer dimension to problem solving processes (Bennett, 2017).

**Data Collection Procedures**

While the Second Life Magic Drums were the instrument for the think aloud, data were collected through two private journaling sessions. The first data set were collected through spontaneous think alouds from participants as they interacted with the Magic Drums, sent to the researcher *in the moment* through the Second Life text instant message feature. The second data set, which was also a second iteration of the same think aloud process introduced in the Magic Drums, were collected using the private journal feature in the course learning management system, Blackboard. This second set of protocols intended to elaborate and further enrich the original responses from the first iteration, and included summative reflections on their gained insights about creating a character as part of the goal oriented process. Fourteen text protocols were gathered for each participant, with word counts of 20 to 100 each, over a period of two weeks.

**Table 1**  
Data Collection Problem Solving Protocol

Problem Solving Step	Second Life Drum
Drum 1: Defining and setting a goal What do human rights mean to you? How would you define the rights you want to express in ways that could become guides for your actions?	Drum 1: In your hands speech to the UN by Eleanor Roosevelt (values and goals)

Table 1 Continued	
<p>Drum 2: Finding examples of your goal at the present time and a beginning estimate of where you are in relation to your goal, using sensory connections to do so</p> <p>Learn ways to express the goals of your character as a sensory experience.</p>	<p>Drum 2: Owen and Mzee, the unlikely relationship of a tortoise and a hippo (experiencing through the senses to find deeper connections to your goals)</p>
<p>Drum 3: Creating a map to cross the distance between the present experience of your goal and where you want to be</p> <p>How would you create a map to cross the distance between the goals you want to accomplish and what you are experiencing now? A map that will help you become the character you want to be?</p>	<p>Drum 3: Message to Arecibo, sent from scientists through space in binary code, or a map on how to get to Earth (follows how one might create a map to map the distance we need to cross between now and the goal)</p>
<p>Drum 4: Using the map to decide possible guidelines for the paths and actions you might take to achieve your goals</p> <p>What kind of path could your character take to reach their goals?</p> <p>Looking at your map, see if you can imagine a path, steps you might take to cross any distance you need to travel to become the character you want to be.</p>	<p>Drum 4: The Path of Light, or the metaphor of the redwood trees to survive for 2000 years (the path one needs to take to reach our goals, sometimes, by any means necessary)</p>



Table 1 Continued	
<p>Drum 5: Determining if the map and guidelines are going to work by trying them out in some way. Try to think of how to express your character’s ideals and goals in ways that can be adapted to different situations, while holding onto the essential definitions you have chosen.</p>	<p>Drum 5: Playing for Change, or a video of Stand by Me being played across the world (ways to express ideas to adapt goals to suit various situations)</p>
<p>Drum 6: Deciding on the strategies that work and the ideas and activities about human rights you might share with others. Bring together the Guides you have chosen for each problem-solving strategy to help express your character in ways that respect human rights in Real Life Situations</p>	<p>Drum 6: The Mermaid, the symbolic guide to the problem solving strategies (bringing together all the problem solving guides and communicate them symbolically)</p>

Table 1 outlines the guiding protocol for the two data collection iterations. The first column describes the problem solving steps of each drum. It also includes in italics, the guiding questions and suggestions that participants received to prompt the think aloud process. The second column describes the symbolic tools used to prompt the think aloud. Figure 2 represents the symbolic aspects of the steps, as they were set up to represent each drum.



**Figure 2.** Diagram of Drum Titles.

**Validity.** Threats to the validity of data may be present with think alouds. Von Someren et. al. (1994) outlined two potential threats to validity: 1) incompleteness due to synchronization, and 2) invalidity due to working memory. The first indicates that in order to verbalize the thinking process, cognitive processes must be slowed down, which may result in incomplete protocols because words cannot keep up with the mind. The second indicates that working memory may be supplanted by the process itself, rather than the verbalization of ideas crossing it. This second one threatens validity only if the protocols capture non-verbal data, like images or diagrams participants draw.

This study attempted to offset these two threats to validity through redundancy. Participants underwent two iterations of think alouds. The first was spontaneous, recorded during the goal oriented process in the Magic Drums, and the second through an online journal that revisited the same process, allowing the participant to record an elaborated think aloud protocol of the first. Table 1 shows the protocol, which is repeated. The second validity threat was offset by a combination of the redundancy function of the two iterations, as well as the process of collecting only verbal data, not drawings.

## Data Analysis

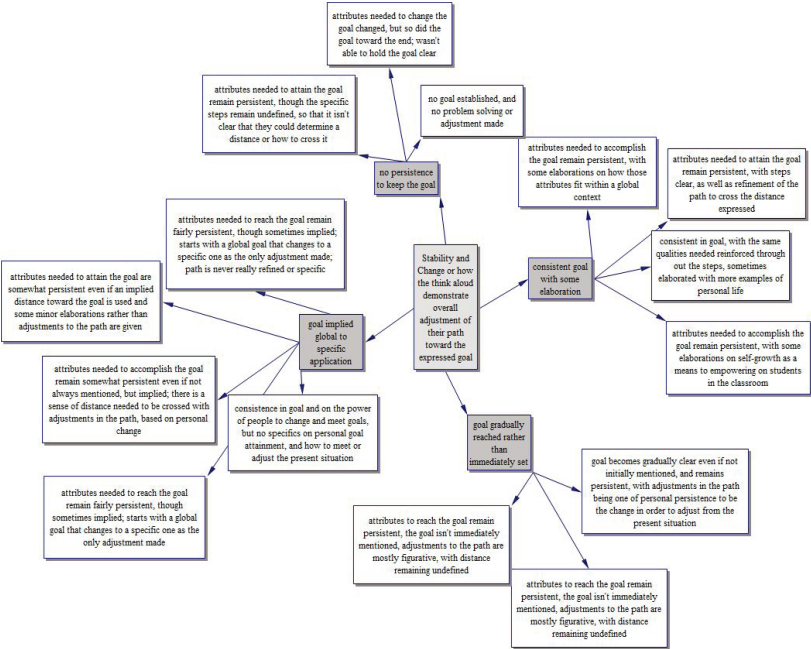
Data were analyzed using an adaptation of the means-end process described by Newell and Simon (1972) and Ericsson and Simon (1993). The Means-End analysis estimates how individuals decide on the means to cross any distance they believe they must travel to reach the end state goal. The analysis included how each participant reduced this distance and tried to overcome obstacles that may increase the distance to the goal. This analysis had not been previously used in a research study using virtual world environment data, but rather had been suggested as a proof of concept for helping to explore new ways of studying the possible transfer of virtual world education to real life situations (Bennett and Patrice, 2013; Bennett, 2017).

A systematic process for analysis through means-end included a pattern synthesis of the 210 text protocols that resulted in two focused elements: 1) the stability of the character created, even as the problem solving process elaborated and changed the direction of the goal-oriented path, and 2) validation through final reported insights. The synthesis from these data analyses were grouped into major themes, categorized under two general triangulated areas.

**Stability and Change.** The first focused element named above attempts to determine to what extent the participant showed persistence in a goal as they developed their own vision of character. Analysis for this portion of the research was conducted in four reduction steps viewed from a means-end lens to measure a distance to the goal, from Drum 1 to Drum 6 in the problem solving process (Newell and Simon, 1972). The following steps outline the means-end analysis for stability and change:

1. Original text responses were reduced to words that addressed the problem solving step and mentioned keywords like goals, character traits, and strategies taken.
2. The reduced data were analyzed for stability and change by examining the changes, adjustments, or persistence toward attaining the goal and creating a character.
3. Synthesis statements from the previous reduction were analyzed and categorized to formulate a graded set of themes to describe stability and change.

Figure 3 shows an analysis mind map of step three with step two reduced data.



**Figure 3.** Data Analysis Mind Map for Stability and Change.

**Named Insights.** The second focused element named above attempts to determine how participants were able to describe personal insights about their journey and the character they created of themselves. This analysis was based on a summative reflection completed after the second problem iteration. Therefore, only one text response was utilized for this part of the study. The following steps outline the data analysis process for this portion of the data:

1. Original text responses were reduced to words that described character creation, personal traits, and goal orientation.
2. The reduced data were categorized into themes on self-awareness.

Figure 4 shows an analysis mind map of the process.

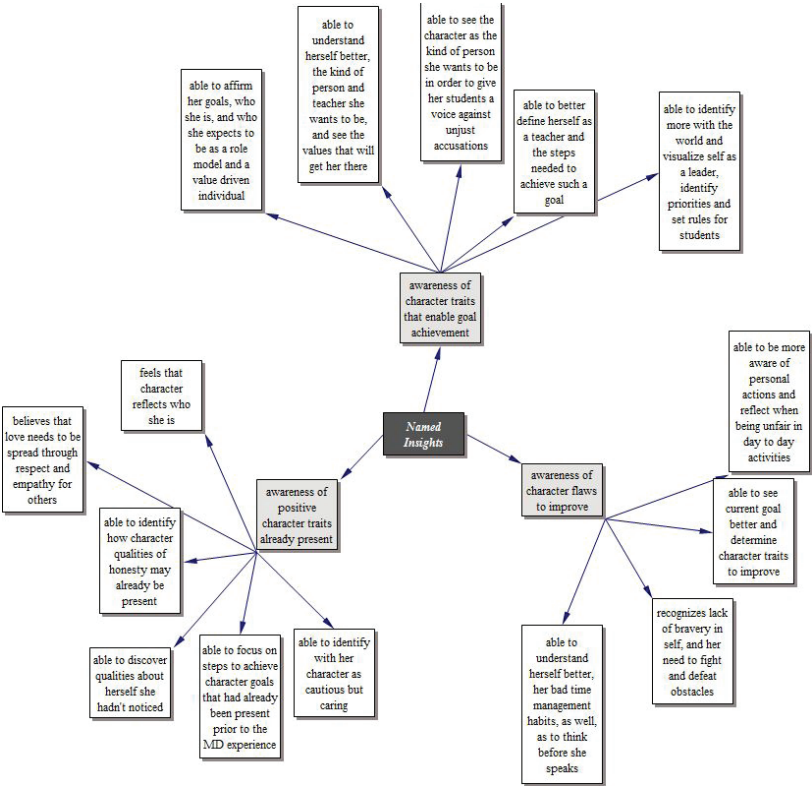
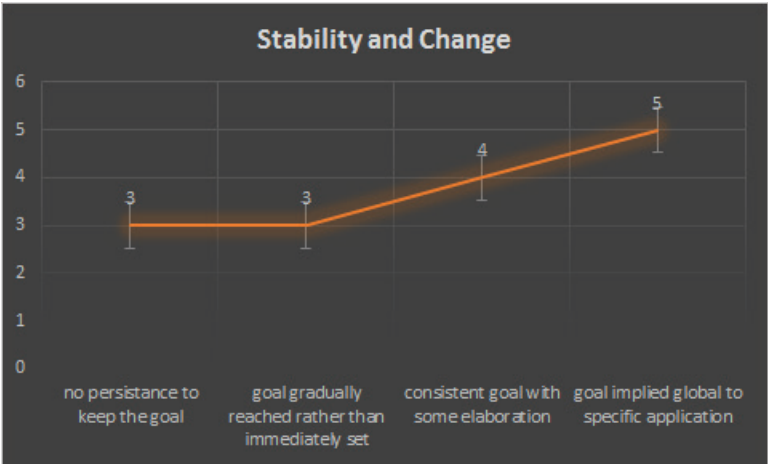


Figure 4. Data Analysis Mind Map of Named Insights.

RESULTS

The means-end analysis resulted in four themes that described how the participants created a persistent character with goal oriented behavior. Figure 5 quantifies the essence of how the dynamics of stability and change occurred on this symbolic journey. In these, there is a gradation from the point where there is no goal persistence to the end to a consistent and clear path toward the goal.



**Figure 5.** Stability and Change.

Three participants were unable to set a clear goal, or if set, did not persist throughout the problem solving process. Some participants gradually revealed the goal that became clearly consistent by the end, while others persisted in the goal, and elaborated details to meet it, demonstrating stability in the path.

Three themes related to personal awareness emerged from the analysis of ideas recorded by the participants at the end of their think aloud journey. Figure 6 quantifies them as insights that describe the participants' positive character traits already present, ascribed to their created character.

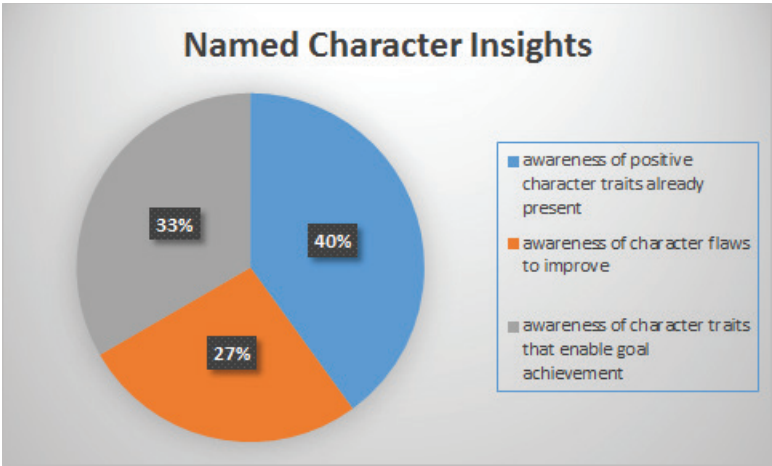


Figure 6. Named Character Insights.

The second was a description of character traits that enable goal achievement. This group showed detailed plans for achieving the character’s goals, and strongly identified with the traits given to them. The third group was an amalgamation of responses that pointed toward character deficits that needed to be overcome. Some indicated that these represented their own known character flaws, while others gained insight into character flaws of which they had previously been unaware.

While this second analysis did not directly examine how participants crossed a distance to reach a goal, it did provide some potential insights into themselves and how aware they were about traits that may potentially make them more inclined toward successful goal completion. Table 2 makes a comparison of the two sets of themes, sorted by the themes on stability and change. The names listed are all pseudonyms to protect the participant’s identities. Although there doesn’t seem to be a clear pattern between those participants that are able to identify strengths or flaws in their character, what is truly interesting is the alignment of themes for those that were able to consistently keep a path toward a goal and those that connected their character traits to goal achievement. Being able to identify positive or negative traits in itself did not consistently align with an ability to keep a goal oriented path.

**Table 2**  
Theme Comparison Results

<b>Participant</b>	<b>Themes Stability and Change</b>	<b>Themes Insights Words</b>
Dorothy	consistent goal with some elaboration (1)	awareness of character traits that enable goal achievement (1)
Barbara	consistent goal with some elaboration (1)	awareness of character traits that enable goal achievement (1)
Laura	consistent goal with some elaboration (1)	awareness of character traits that enable goal achievement (1)
Betty	consistent goal with some elaboration (1)	awareness of positive character traits already present (2)
Susan	goal gradually reached rather than immediately set (2)	awareness of positive character traits already present (2)
Donna	goal gradually reached rather than immediately set (2)	awareness of character flaws to improve (3)
Sharon	goal gradually reached rather than immediately set (2)	awareness of character flaws to improve (3)
Maria	goal implied global to specific application (3)	awareness of character traits that enable goal achievement (1)
Patricia	goal implied global to specific application (3)	awareness of character traits that enable goal achievement (1)
Carol	goal implied global to specific application (3)	awareness of positive character traits already present (2)



Table 2 Continued		
Michelle	goal implied global to specific application (3)	awareness of character flaws to improve (3)
Karen	goal implied global to specific application (3)	awareness of character flaws to improve (3)
Sandra	no persistence to keep the goal (4)	awareness of positive character traits already present (2)
Jennifer	no persistence to keep the goal (4)	awareness of positive character traits already present (2)
Elizabeth	no persistence to keep the goal (4)	awareness of positive character traits already present (2)

The breakdown and reduced data in Table 2, however, only tell part of the insights. For instance, even as participants set goals in different ways, they were uniform in stating that they identified very strongly with the character they were creating throughout the process. In this figurative journey, this parallel drawn between the fictional character that respects human rights and themselves is better described by the participants themselves.

One of the participants that gradually reached an understanding of her goal was Sharon, who stated the following insight: “My character represents the part of me that has never being brave enough to fight for her ideals; it represents who I want to be. Now I know that if everything can come true, but I have to fight for it (in a peaceful manner), I have to brave and defeat the obstacle that might get on my way.”

Donna, who also gradually reached an understanding of her goal, said, “This process has changed me, because now I catch myself thinking about how I can be the best me I can be. For example, whenever I catch myself being unfair or judgmental, I take some time to reflect, and then find a way to make amends with myself and those who I was being unfair with or judgmental towards.”

Another participant, Dorothy, who consistently kept to the goal she originally set said, “I identify with this character in every step of the way. I

basically intertwined my life through this character, and I felt as if I was always talking about myself and what I have done or what I want to do. I feel education is so important, and education should be free and accessible to all. We live in an area with a large amount of illegal immigrants, and as a teacher, I need to look past my own political views and treat all children equally.”

Barbara, who also consistently kept to the goal she originally set, stated the following insight: “This process changed me in that I am able to identify more with the outside world. I am now thinking of myself as a leader and the kind of priorities I would have for not only myself but for others as well. Being in charge takes a lot of planning.”

## DISCUSSION

This study asked the question, how do pre-service teachers create a character that respects human rights? The results of this paper examine this question from two focused elements, which emerged from the means-end analysis of the problem solving task.

First, data results from stability and change suggest that goal oriented behavior is not always consistent or immediately apparent. Some participants realized their goal gradually, as if the process itself helped reveal it, while others looked at goals from global lenses more implied than stated. This indicates that while not everyone could develop a goal oriented character, the majority of participants in this study did, though not always in the same way, even if they all followed the same figurative path. The process of interpretation from the symbolism of the drums seemed to have allowed more freedom to create a character as an emerging construct of their professional self, rather than as an already pre-set destination.

Second, data results from named insights more directly looked at the kind of character each individual was building. Participants seemed to focus on what they could or could not do in this present time. While some were very optimistic in naming only those character traits that were positive, others also thoughtfully explored those that could be improved. As future teachers, this suggests an understanding of what challenges they are more prepared to face versus those they know they must improve.

It is important to note here that in comparing themes for stability and change, consistent goal oriented behavior was more apparent in those that could identify, not just character traits in general, but traits that were specific to keeping a goal. This seems to suggest that those that are more goal oriented, are much more self-aware of the traits that make them so. The

comparison of themes also seems to suggest questionable ability to build a genuine character for those that seem over confident in naming their positive character traits. Of the six participants that described positive character traits, half of them could not keep a goal oriented path. While this is only three of the participants, this suggests a lack of reflection or introspective ability.

## **IMPLICATIONS AND NEED FOR FURTHER STUDY**

This study indicates that implications may be applied to both how pre-service teachers see themselves as humanitarian in their teaching role, and how they may use a directed problem solving path to be more resolved in enacting it.

The first implication suggested in this study is that pre-service teachers may benefit from reflective processes that allow them to self-examine positive and negative traits. If these opportunities are focused on humanitarian traits and ideals like those named in the UN Declaration, perhaps an inclination toward action may be developed. This would mean adding more deliberate introspective activities on character building into preservice teacher programs.

A second implication is that those who can persist toward a goal may also be stronger in holding on to their beliefs even in the face of potential moral ambiguity, and be less likely to engage in unethical behavior. In teacher preparation, this may mean the addition of elements in the curriculum that encourage taking mindful and deliberate steps toward problem solving, in order for them to become ingrained. The problem solving process in this study was revelatory, and employing these activities may also allow for early intervention of those students who struggle to develop goal oriented behavior.

While this study may have limited generalizability, it does present some possible directions for future research. First, additional studies should be considered in the area of introspection and how capable pre-service teachers may be in identifying character traits for goal oriented behavior. Second, studies should also take this problem solving process one step further and examine if what pre-service teachers identify as a goal will, in fact, translate into some form of humanitarian action in their practice. In this present study, a side implication is the possibility of real world transfer. Perhaps if participants identified so strongly with the character they were creating, this may also provide them with an inclination to act in a way that protects human rights. This idea certainly needs exploring further.

Symbolic introspection has great potential for revealing not just character traits, but the intentful nature of those traits to manifest goal orientated action. In this Magic Drums experience, the magic may be perceived as that which we reveal about ourselves when we attempt to solve problems by first building our character.

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