Exploring social media as a method to improve zookeeper engagement and morale:

Keeper Profile of the Month

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Abstract

Recognition is a basic method to improve employee morale. Low employee morale is a common issue among zookeepers. To help improve co-worker morale and engagement, I planned a new initiative, a “Keeper profile of the month” video series. To promote better engagement and participation among co-workers, I reviewed literature pertaining to the use of social media (e.g. Facebook, YouTube) to improve the social media presence of my local chapter of American Association of Zoo Keepers (AAZK). I analyzed 60 AAZK videos, and 87 AAZK chapter Facebook Community pages, and investigated the following questions: Are videos with narration more popular (i.e. have higher view counts) or have higher engagement rates? Is video length a factor in determining popularity or engagement rates? I found no relationship between video length and view count nor engagement rate. I found that videos without narration perform well, perhaps due to how viewers watch videos on mobile devices. Videos that simply use text and images perform well. The investigation of Facebook identified that my local chapter’s typical response time needed much improvement. It is also key to post web content on a regular basis. I plan to utilize what I learned from my investigations to better produce my video series, and improve the web presence of my AAZK chapter, as ways to improve co-worker morale.
Introduction

Zookeepers and Low Employee Morale

My Master Plan evolved from my personal desire to help improve the employee morale among my fellow zookeepers. The Cambridge Business English Dictionary defines morale as “the level of satisfaction felt by a person or group of people who work together” (Morale, n.d.). Low morale among zookeepers is not an uncommon issue at zoos (Steenberg, 2006), and the Bronx Zoo’s mammal department is not immune to this problem. Symptoms I have observed from my almost 20 years of experience in the department have included high turn around, disrespect and conflict, lateness, and low participation in AAZK events. The Wildlife Conservation Society (WCS) manages the Bronx Zoo, as well as four other zoological parks in New York City, and a large global conservation program. In 2014, WCS conducted an organizational-wide survey of employee satisfaction, in which the Bronx Zoo’s mammal department ranked lowest. The top three areas of improvement from the overall survey were identified as: internal communications, professional development and teamwork (Samper, 2014).

Research supports that managers can create low morale by using a top-down, authoritarian based management style (Ali, n.d.; Simonton, n.d.). Many of the managers at my current workplace continue to follow this controller leadership discourse (Western, 2010) which along with their micromanaging style, I believe has led to low morale at. Under this management model, communication occurs in solely one direction, with employees listening to managers, but managers rarely taking the time to listen to employees (Simonton, n.d.). Ludwig (2016) acknowledges the importance of managers to connect and listen to their employees. There is a common desire that everyone wants to hear, and feel, that they make a difference (Ludwig, 2016), and that what they do matters (White, 2015). White (2015) states feeling appreciated at work is critical for improving morale. When discussing low morale, Dr. John Baker (1996), former Vice-President of Student Services at San Diego Mesa College, states “there are two things people want more than sex and money….recognition and praise!”. 
Research has concluded that there is a relationship between employee job satisfaction and reward and recognition (Zeb, Rehman, Saeed ur, & HamidUllah, 2014). White (2015) states that initiatives with the goal of improving staff recognition should be strongly considered; and describes creating a “wall of staff achievements” as a visual tool for recognition and as a method to promote a sense of self and peer recognition. Not only is recognition key to achieving higher employee morale, it is important that the recognition be authentic and genuine (Krawke, 2018) and not perceived as fake by employees, which can lead to apathy, sarcasm and cynicism (White, 2015).

From my personal experience, many zookeepers who experience low morale are seeking recognition, and the feeling of importance. Since recognition is one of the basic methods to improve employee morale (Baker, et al., 1996; Kauffin, 2017; Ludwig, 2016; Power, 2016; Pyrillis, 2016; Rapoport, 2010; White, 2015; Whyte, 2008; Zeb, et al., 2016; Zielinski, 2012) I have chosen to create an ongoing video series of 'Zookeeper Profile of the Month" interviews. I will interview zookeepers who wish to participate, from all five WCS managed parks (Bronx Zoo, Central Park Zoo, New York Aquarium, Prospect Park Zoo, and Queens Zoo). I will include a short biography, and ask questions about their favorite animals, training successes and challenges, hobbies, and anything the keeper wishes to share. These video profiles will give zookeepers recognition and a voice.

Exploring of Social Media to Improve Engagement

My past projects as a Project Dragonfly student built upon research in the social sciences pertaining to “sense of place” and led to my creation of an environmental stewardship team for my local chapter of American Association of Zoo Keepers (AAZK), in an effort to improve morale. But the environmental stewardship team is only beneficial if keepers participate. For part of this project I used inquiry to explore social media, and video, as a learning tool to improve zookeeper participation and engagement within the New York City AAZK (NYCAAZK) chapter. One of the objectives
of this IAP is to better inform me and help produce my future “Keeper profile of the month” series.

Video

I explored best methods to increase our web presence via social media (e.g. Facebook, YouTube). Research supports the use of videos and photographs in social media, increases engagement (Hessel, Lee, & Mimno, 2017; Pawsey, Nayeem, & Huang, 2018). Researchers exploring sub-communities on Reddit.com found that models with visual content were more popular than text-only models; and when images and text were combined, performance was even better (Hessel, et al., 2017). In addition, the use of video can better engage viewers emotionally, and offers the ability to share a richer, fuller story than text or photos alone (Garfield, 2010). Importantly, video allows the creator to connect with people on a more personal level (Garfield, 2010). Search engines (e.g. Google, Bing) have replied by returning video content 50 times more likely than text content alone (Handley & Chapman, 2012).

Thinking of ways to improve our website with video, I considered creating videos to showcase the great efforts that zookeepers make during our larger events such as ‘Bowling for Rhinos’ and ‘Croctoberfest’, as well as documenting our clean-up events. The videos could be shared via social media to promote the chapter, as well as inform and gain more future participants and members. Many AAZK chapters produce videos to promote an event, or as a recap and review of a past event, as well as educational videos. I became interested in exploring what style of AAZK videos were most popular. Was there a difference in popularity depending upon whether narration or storytelling was used in the video?

Researchers studying video and best storytelling methods to educate the public about energy efficiency and climate change research, found it helpful to consider how we present scientific information (Gordon, Waitt, Cooper, & Butler, 2018; Moezzi, Janda, & Rotmann, 2017). Researchers that analyzed the top 100 videos on YouTube about Eastern equine encephalitis virus, concluded that while videos produced by
professionals (i.e. scientists) presented the most comprehensive information, few made the top 100 list (Basch, et al., 2018). The use of stories and storytelling can better influence and engage an audience (Moezzi, et al., 2017). Gordon, et al. (2018) believe it is best to combine scientific knowledge with layman’s terms in a “collective video storytelling” style.

In the conservation field, (and as a Project Dragonfly student), a common discussion theme is how bringing social scientists together, alongside natural scientists, can improve the communication of conservation messages. Presenting scientific knowledge in terms the general public can more easily understand, in a storytelling style video, is an extension of this.

**YouTube**

YouTube.com, a video sharing website and social network, contains more than one billion users, over 300 hours of video content is uploaded every minute, and viewers watch millions of hours of YouTube videos every day (Basch, et al., 2018; Hoiles, Aprem, & Krishnamurthy, 2017).

For the first part of this IAP I analyzed videos published on YouTube by AAZK chapters. I coded what types of videos the AAZK chapters produced (Educational, Entertainment, Promotional, or a Review/Recap of an event). I wanted to explore if there was a difference in the popularity of videos depending on whether they used a storytelling style or narration versus those without any narration.

The “view count” of a video is used by YouTube as a measure of popularity (Hoiles, et al., 2017). However, while videos with a high view rate can be considered popular, we cannot assume that viewers are watching the entire video, or if the message resonates with them. Researchers have found that videos with high view counts do not necessarily have high watch times (Wu, Rizoiu & Xie, 2018).

So, following several researchers, I collected data parameters from each video to calculate an engagement rate (ER) (Hoiles, et al., 2017; Johansson, 2012; Wu, et al.,
2018) which reportedly offers a better comparative metric of how viewers interact with a video.

Video length was another concern I am interested in. When I create videos for my future “Keeper Profile of the Month” series, as well as for AAZK events, I wondered, what length should I aim for? The length of videos has been decreasing (Business Insider, 2013). Seymour (2014) states that shorter video is better, but also states the new rule of thumb: “be as long as you need to be but don’t be any longer”. He believes that people will still watch a longer video, but only if it’s good (Seymour, 2014). Therefore, I also analyzed both ER and view counts versus length of video in search of a pattern.

**Facebook**

Social networks are increasingly important tools for information and communication (Robelia, Greenhow, & Burton, 2011). They can lead to higher motivation, participation and improved citizen engagement (Kaigo & Okura, 2016). Facebook is the most popular social network in the world, with 2.27 billion monthly active users as of the third quarter of 2018 (Statista, 2018). When researchers investigated how water businesses in Australia and the United Kingdom could improve customer engagement on Facebook, they found the use of photographs and video to be the most effective type of posting in terms of the level of response (Pawsey, et al., 2018). They further ascertain that in order to promote and maintain engagement, it requires a commitment to post content *regularly* (Pawsey, et al., 2018). Pawsey et al. (2018) noted that widely responded to posts included those with wildlife photos taken by staff. While this was the response by the general public, I can be pretty certain that a similar response can be achieved with *zookeepers*.

Researchers have also concluded that direct interaction is necessary for the expansion of internet communities (Kaigo & Okura, 2016). Therefore, the use of Facebook and other social media platforms, could be used to supplement and maintain the local AAZK community, but does not replace in-person events. Glosby (2015)
discusses maximizing engagement and the impact of social media during events, by using specific hashtags for the event, taking lots of photographs and video to post throughout the event, and attempting to capture every attendee, then sharing a highlight video afterwards as a “thank you”. These are methods to consider during future NYCAAZK events.

I explored many aspects of social media to learn how to improve engagement and participation by zookeepers in our local AAZK chapter, and as a method to improve employee morale among my co-workers.

Methods

AAZK YouTube Videos: Data Collection

I downloaded “TubeBuddy” from TubeBuddy.com, a (free) web browser plug-in, to help collect data parameters from YouTube videos. I then installed TubeBuddy using Google Chrome as my web browser.

On October 29, 2018 I performed a keyword search for “AAZK” on YouTube, while I was simultaneously signed-in to TubeBuddy. I retrieved a total of 60 public YouTube videos with the keyword “AAZK”.

I collected the following parameters for each video: video title, YouTube channel (producer of video), html address of video, published date, video length, number of likes, number of dislikes, number of comments, number of YouTube subscribers to the channel, number of likes on Facebook, and the total number of views. I watched each video and coded the video as: educational, promotional, review, or entertainment. I coded the video as educational if the theme of the video was spreading an educational message (e.g. zookeepers training animals, conservation messages); promotional if the video promoted a future event including fundraisers; review if the video was a recap of a past event; and entertainment for those videos which were purely for entertainment (or enjoyment).g. 2017 AAZK lip-synch challenge videos). I also coded each video for use of narration/storytelling.
Following the formulas used by several researchers I calculated an ER (Hoiles, et al., 2017; Johansson, 2012; Wu, et al., 2018) for each video. Several ER formulas included the number of times the video was shared, but since I did not have this information, I substituted “Facebook likes” for shares. I also calculated the rate without subscribers, as the formula called for new subscribers, but I only had access to total subscribers.

This is the ER formula I utilized:
Engagement Rate = (Likes - Dislikes + Comments + Facebook likes)/ Total views *100

**AAZK Chapters Facebook Community Page Metadata Collection**

On November 26, 2018, I logged into the American Association of Zoo Keepers website (www.aazk.org) to obtain a current list of AAZK chapters. There were 105 AAZK chapters. Using that list, I searched Facebook for each chapter. There are different types of Facebook pages, such as: personal pages (which each individual user possesses), community pages (which most chapters created) and group pages (which can be public or closed). Community pages also have an option for visitors to review the organization, and leave a rating. Facebook pages also offer the ‘typical reply time’ that the page’s administrator typically takes to reply to a message posted to the page.

I collected the following Facebook parameters and data for each AAZK chapter: the type of Facebook page, number of likes, number of followers, review rating, number of reviewers, and typical reply time.

Reply time was displayed by Facebook as a range from within minutes, an hour, hours, a day or no entry. I coded the reply times as “within minutes”= 1, “within an hour” =2, “within hours” =3, “within a day”=4 and no entry which was interpreted as greater than a day, as =5.
Results

**AAZK YouTube video analysis**

On October 29, 2018, I performed a keyword search of “AAZK” videos publicly available for viewing on YouTube, this resulted in 60 videos (n=60). Investigating the AAZK videos, the largest category consisted of *entertainment* (n=25), followed by *educational* (n=19), *promotional* (n=9), and *review* (n=7) (see Figure 1a & Table 1b).

**Top 10 AAZK videos by total view counts** Table 1 displays the top 10 retrieved AAZK public videos ranked by the number of total view counts. Half of this top 10 video list were recordings of keeper chats from the New Orleans AAZK Chapter. Following Basch et al., (2018), I compared videos by category type, as a percentage of the collective total views. When investigating these top 10, 80% were categorized as “educational” (Figure 1b), and 70% included narration (Figure 1c). Only 9 of all (n=60) of the AAZK videos had total view counts higher than the mean ($\bar{x} = 455.27$) (Table 1a).

<table>
<thead>
<tr>
<th></th>
<th>Likes</th>
<th>Dislikes</th>
<th>Comments</th>
<th>FB Likes</th>
<th>Total Views</th>
<th>Engagement Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>164</td>
<td>4</td>
<td>20</td>
<td>1256</td>
<td>26861</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.78</td>
<td>0.07</td>
<td>0.34</td>
<td>21.29</td>
<td>455.27</td>
<td>13.05%</td>
</tr>
<tr>
<td>Median</td>
<td>106</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of videos&gt; Mean</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td># of videos&lt; Mean</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>42</td>
</tr>
</tbody>
</table>

*Table 1a. Total and Mean Number of Views of AAZK YouTube Videos, n=60.*
Table 1b. Breakdown by video category types, n=60

<table>
<thead>
<tr>
<th></th>
<th>Educational</th>
<th>Entertainment</th>
<th>Review</th>
<th>Promotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=</td>
<td>19</td>
<td>25</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td># of Views</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>1003.37</td>
<td>145.76</td>
<td>58.43</td>
<td>420.33</td>
</tr>
<tr>
<td>Median</td>
<td>389</td>
<td>61</td>
<td>66</td>
<td>118</td>
</tr>
<tr>
<td>Min</td>
<td>39</td>
<td>17</td>
<td>4</td>
<td>32</td>
</tr>
<tr>
<td>Max</td>
<td>4627</td>
<td>807</td>
<td>90</td>
<td>2899</td>
</tr>
<tr>
<td>Total</td>
<td>19064</td>
<td>3644</td>
<td>409</td>
<td>3783</td>
</tr>
<tr>
<td>%</td>
<td>70.87%</td>
<td>13.55%</td>
<td>1.52%</td>
<td>14.06%</td>
</tr>
<tr>
<td>Likes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>5.26</td>
<td>1.2</td>
<td>0.14</td>
<td>3.67</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>30</td>
<td>1</td>
<td>33</td>
</tr>
<tr>
<td>%</td>
<td>60.98%</td>
<td>18.29%</td>
<td>0.61%</td>
<td>20.12%</td>
</tr>
<tr>
<td>Dislikes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.05</td>
<td>0.12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>%</td>
<td>25.00%</td>
<td>75.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Length of Video</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>267.79</td>
<td>267.52</td>
<td>219.86</td>
<td>145.89</td>
</tr>
<tr>
<td>Total</td>
<td>5088</td>
<td>6688</td>
<td>1539</td>
<td>1313</td>
</tr>
<tr>
<td>%</td>
<td>34.78%</td>
<td>45.72%</td>
<td>10.52%</td>
<td>8.98%</td>
</tr>
</tbody>
</table>
Exploring social media to improve zookeeper engagement and morale

Figure 1a. (Top Left) AAZK videos by category, n=60

Figure 1b. (Top Right) % of video types of the top 10 video sorted by total view counts

Figure 1c. (Bottom Left) Use of narration in top 10 videos by total views.

Table 2. The top 10 AAZK videos ranked by Total Views, n=60.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Title of video</th>
<th>Channel</th>
<th>Type</th>
<th>Length</th>
<th>Likes</th>
<th>Dislikes</th>
<th>Comments</th>
<th>FB likes</th>
<th>Total Views</th>
<th>Engagement Rate</th>
<th>Narration?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AAZK South American Tapir Chat</td>
<td>NOLA AAZK</td>
<td>EDUCATIONAL</td>
<td>9:08</td>
<td>9</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>4627</td>
<td>0.26%</td>
<td>YES</td>
</tr>
<tr>
<td>2</td>
<td>Bowling for Rhinos 2012</td>
<td>American Association of Zoo Keepers</td>
<td>EDUCATIONAL</td>
<td>4:05</td>
<td>30</td>
<td>0</td>
<td>5</td>
<td>24</td>
<td>4057</td>
<td>1.45%</td>
<td>NO</td>
</tr>
<tr>
<td>3</td>
<td>AAZK Red River Hogs</td>
<td>NOLA AAZK</td>
<td>EDUCATIONAL</td>
<td>5:26</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3266</td>
<td>0.37%</td>
<td>YES</td>
</tr>
<tr>
<td>4</td>
<td>AAZK/ICZ Zookeeper Conference Commercial</td>
<td>Woodland Park Zoo</td>
<td>PROMOTIONAL</td>
<td>1:15</td>
<td>11</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2899</td>
<td>0.45%</td>
<td>YES</td>
</tr>
<tr>
<td>5</td>
<td>Bowling For Rhinos</td>
<td>American Association of Zoo Keepers</td>
<td>EDUCATIONAL</td>
<td>0:59</td>
<td>16</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>1846</td>
<td>1.25%</td>
<td>YES</td>
</tr>
</tbody>
</table>
Exploring social media to improve zookeeper engagement and morale

<table>
<thead>
<tr>
<th></th>
<th>Title</th>
<th>Channel</th>
<th>Type</th>
<th>Duration</th>
<th>Views</th>
<th>Comments</th>
<th>Engagement Rate</th>
<th>Engagement Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Bowling for Rhinos 2012</td>
<td>artandrinos</td>
<td>EDUCATIONAL</td>
<td>4:05</td>
<td>1155</td>
<td>0</td>
<td>0.61%</td>
<td>NO</td>
</tr>
<tr>
<td>7</td>
<td>Akron Zoo Chapter of AAZK BFRlipsync2017</td>
<td>Akron Zoo AAZK</td>
<td>ENTERTAINMENT</td>
<td>6:00</td>
<td>807</td>
<td>1</td>
<td>30.73%</td>
<td>NO</td>
</tr>
<tr>
<td>8</td>
<td>AAZK White Rhinos</td>
<td>NOLA AAZK</td>
<td>EDUCATIONAL</td>
<td>4:00</td>
<td>699</td>
<td>1</td>
<td>0.29%</td>
<td>YES</td>
</tr>
<tr>
<td>9</td>
<td>AAZK Sea Lion Keeper Chat</td>
<td>NOLA AAZK</td>
<td>EDUCATIONAL</td>
<td>4:55</td>
<td>568</td>
<td>0</td>
<td>0.70%</td>
<td>YES</td>
</tr>
<tr>
<td>10</td>
<td>AAZK January Hospital Chat</td>
<td>NOLA AAZK</td>
<td>EDUCATIONAL</td>
<td>5:52</td>
<td>498</td>
<td>0</td>
<td>0.60%</td>
<td>YES</td>
</tr>
</tbody>
</table>

**Engagement Rates** The ER of each video was calculated. I sorted the videos by ER, and listed the top 10 AAZK YouTube videos in Table 3. None of these videos used narration, and 40% were coded as *promotional*.

![Top 10 by Engagement Rate: % by Video Type](image1.png)

*Figure 2.* % of video types of the top 10 videos by engagement rate. *a.* (left) with Promotional and Review types of videos included. *b.* (right) with Promotional and Review videos combined as ‘Event’ videos.
Table 3. Top 10 AAZK YouTube Videos by Engagement Rate, n=60.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Title of video</th>
<th>Channel</th>
<th>Type</th>
<th>Length</th>
<th>Likes</th>
<th>Dislikes</th>
<th>Comments</th>
<th>FB likes</th>
<th>Total Views</th>
<th>Engagement Rate</th>
<th>Narration n?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rhinos Need Your Help</td>
<td>Indianapolis AAZK</td>
<td>EDUCATIONAL</td>
<td>1:00</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>67</td>
<td>48</td>
<td>139.58%</td>
<td>N</td>
</tr>
<tr>
<td>2</td>
<td>Akron Zoo National Zoo Keeper Week 2017</td>
<td>Akron Zoo AAZK</td>
<td>EDUCATIONAL</td>
<td>9:18</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>202</td>
<td>332</td>
<td>62.05%</td>
<td>N</td>
</tr>
<tr>
<td>3</td>
<td>Indianapolis AAZK Bowling For Rhinos 2016 Teaser</td>
<td>Indianapolis AAZK</td>
<td>PROMOTIONAL</td>
<td>0:39</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>37</td>
<td>73</td>
<td>50.68%</td>
<td>N</td>
</tr>
<tr>
<td>4</td>
<td>#BFRLipSync2017</td>
<td>Little Turtle AAZK Chapter FWCZ</td>
<td>ENTERTAINMENT</td>
<td>5:15</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>92</td>
<td>196</td>
<td>48.98%</td>
<td>N</td>
</tr>
<tr>
<td>5</td>
<td>Indianapolis AAZK Shelter Drive</td>
<td>Indianapolis AAZK</td>
<td>PROMOTIONAL</td>
<td>2:14</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>47</td>
<td>106</td>
<td>46.23%</td>
<td>N</td>
</tr>
<tr>
<td>6</td>
<td>Tulsa AAZK BFR 2016 Promotional Video</td>
<td>Tulsa AAZK</td>
<td>PROMOTIONAL</td>
<td>3:12</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>49</td>
<td>118</td>
<td>44.92%</td>
<td>N</td>
</tr>
<tr>
<td>7</td>
<td>Bowling for Rhinos 2014</td>
<td>Dallas AAZK Chapter</td>
<td>EDUCATIONAL</td>
<td>3:38</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>70</td>
<td>35.71%</td>
<td>N</td>
</tr>
<tr>
<td>8</td>
<td>Bowling for Rhinos 2016 Dallas AAZK</td>
<td>Daniel Arnauld Photography</td>
<td>REVIEW</td>
<td>1:09</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>32</td>
<td>90</td>
<td>35.56%</td>
<td>N</td>
</tr>
<tr>
<td>9</td>
<td>Tulsa AAZK Chapter's BFR 2014 Promotional Video</td>
<td>Tulsa AAZK</td>
<td>PROMOTIONAL</td>
<td>2:07</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>62</td>
<td>191</td>
<td>34.55%</td>
<td>N</td>
</tr>
<tr>
<td>10</td>
<td>Akron Zoo Chapter of AAZK BFRLipSync2017</td>
<td>Akron Zoo AAZK</td>
<td>ENTERTAINMENT</td>
<td>6:00</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>238</td>
<td>807</td>
<td>30.73%</td>
<td>N</td>
</tr>
</tbody>
</table>

**AAZK YouTube videos by category type.** I labeled the videos by category type and found the highest percentage of videos were entertainment (41.7%), followed by educational (31.7%), promotional (15%), and review (11.7%).

When exploring the types of videos viewers were watching, using total view counts, I found 70% of the total views (Figure 3a) were educational videos, followed by promotional (14.1%) and entertainment (13.6%). I found 61% of the total “likes” (Figure
3b) were obtained by educational videos, again followed by promotional (20.1%) and entertainment (18.3%) as well. Looking at the total "dislikes" confirmed that the videos categorized as review, did not perform well (Figure 3c).

Descriptive statistics. When investigating if there was a difference in the number of videos produced with narration versus without, I performed a Chi Square test. This supported a significant difference, (p=0.0007), which supported that there were fewer videos produced with narration.

When investigating if there was a difference in the ERs of videos with narration versus without, Student’s t-test resulted in p=0.88, p>α. I fail to reject the null hypothesis: there is no difference in the ER of videos with or without narration.

When investigating the total view counts, and whether there’s a difference among videos with or without narration: p=0.0036. Setting α=0.05, p<α, I can reject the null
hypothesis, there is a difference in videos. This was further demonstrated by 70% of the top 10 videos using narration (Figure 1b).

Further exploring correlation between total view counts and ERs, I found no relationship between the two, with Pearson’s product-moment correlation coefficient (PPMCC) value: -0.15.

I also found no relationships between the length of videos and their ER (r=-0.13) nor total view count (r=0.059).

**AAZK Chapters Facebook Community Page Analysis**

The AAZK website displayed 105 AAZK chapters, which I searched on Facebook. My search resulted in 87 AAZK chapters with *community* pages, two chapters which used personal pages, two chapters which created groups (one public, and one closed), and 14 chapters that did not create a Facebook page. Of those chapters that did not have a Facebook page, I found that the zoo the chapter is associated with, posted and promoted events for the chapter.

I discovered that few pages received review ratings, so I did not include this parameter in my final analysis.

The most common metric used to measure the popularity of a Facebook community page is the number of “likes” the pages displays, which reflects how many visitors have clicked on “like” (Kaigo & Okura, 2016). However, I found there is also the number of “followers” displayed on the page as well. Visitors to a Facebook community page have an option to “follow” a page, without “liking” the page. I found that the number of likes and followers was usually very close to each other, and sorting the pages by “likes” or “followers” produced the same ranking result (Table 4).

<table>
<thead>
<tr>
<th>AAZK Chapter</th>
<th># of Likes</th>
<th># of Followers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cape May County Zoo AAZK Chapter</td>
<td>3981</td>
<td>3999</td>
</tr>
</tbody>
</table>
When examining the reply times, I coded them as a range between one and five, with “within minutes” as equal to one, and greater than a day as five. I found the mean reply time (3.6) corresponded to between “within hours” and “within a day”. I also learned that my chapter, NYCAAZK, has one of the worst times, typically responding in 3 days! There are three chapters which typically replies within minutes: Brevard Zoo AAZK, Phoenix Chapter of AAZK, and North Carolina Piedmont AAZK Chapter.

**Discussion and Conclusion**

In an effort to improve engagement and participation among zookeepers in my local AAZK chapter, I explored the popularity of social media content produced by AAZK chapters. I investigated the popularity and engagement rates of AAZK YouTube videos and AAZK chapter Facebook community pages.

**AAZK YouTube Videos**

I analyzed 60 YouTube videos retrieved using the keyword search “AAZK”. The majority of the videos retrieved were categorized as entertainment (41.7%), these were mostly the result of an AAZK Lip Synch Challenge in 2017, in which chapters challenged each other to create a lip synch video. Even though there were more
entertainment videos found, the top 10 videos ranked by total view counts were mostly educational videos (80%). Half of these videos to rank in the top 10 were produced by the New Orleans AAZK chapter, and were recordings of keeper chats. Learning of the high popularity of keeper chat recordings was helpful, as similar videos could be produced with our zookeepers to help address the lack of recognition and improve morale.

When exploring the top 10 videos ranked by ER, the majority were promotional (40%). This could be expected since promotional videos are intended to be shared via social media, and this factor is included in calculating an ER. The AAZK video with the highest ER had more Facebook likes than views; this implies Facebook users were “liking” the video, without actually watching it. This finding was contrary to the conclusion of many researchers, and tells us ER is not necessarily an accurate metric of viewers’ engagement or watching a video.

Interestingly I found no correlation between total view counts and ER. This was supported by the top 10 lists of videos, sorted by view count and ER, looking very different. In fact, there was only one video, from the lip synch challenge produced by the Akron Zoo AAZK, that appeared on both lists (Table 2 & Table 3).

The ER calculation does not factor in video length. Examining video length I found no statistical relationship between the length of a video and it’s view count nor ER. This brings up the point made by Seymour (2014) and others, be as long as you have to be, but make the video of good quality if you want viewers to watch.

One of my initial questions pertained to the use of narration or storytelling. When comparing the ERs of videos with- and without narration, I failed to reject the null hypothesis (p=0.88), which supported there was no difference between these types of videos. However, when examining the top 10 videos ranked by ER, none of the videos used narration (Table 3). My findings were the opposite of my IAP hypothesis, I expected that videos using narration would have a higher ER. When reflecting on these results, one may conclude that it could be how videos are watched. Most often viewers are watching YouTube videos on their mobile phones and like myself, some viewers
may prefer to have their volume down as to not intrude on others nearby. This was a useful result to learn, as videos with images and text had high ERs, and these types of videos can be easier to produce for future events.

One challenge I encountered during my YouTube analysis was data collection. Previous to 2018, the TubeBuddy web browser plug-in that I utilized, could generate engagement rates as well as other metadata, which would have been very helpful to my research. However, due to legal changes and resulting new rules in the YouTube interface, these derived statistics could not be collected and are no longer available.

### AAZK Facebook Community Pages

When I explored AAZK Facebook pages, I found the average reply time to correspond to between “within hours” and “within a day”. I learned that the NYCAAZK Facebook page ranked horribly, typically responding in three days! I identified this as an area in need of immediate improving.

While I thought the number of likes and followers could be influenced by the zoo’s staff size and population of the chapter’s location, response time shouldn’t be influenced by such. After examining the most popular AAZK page, (Table 4) my first thought was disproven, as the page was that of Cape May County Zoo AAZK, a relatively small zoo and town. However, much of the rest of this top 10 list belonged to chapters associated with large zoos.

### Action Component Description

In addition to the inquiries I explored analysing AAZK YouTube videos and chapter’s Facebook pages, I have already taken some initiatives to improve the web presence of my AAZK chapter. Several weeks ago, I updated and redesigned the chapter’s website, nycaazk.org, on the front-end, so that it is now mobile-friendly and “cleaner” looking (Everyaction, n.d). I migrated some content from an older site, and have now embedded Google Analytics in the new site’s pages. This can better inform me which pages are visited most often, and how users are engaging with the site.
I have also solicited photos from NYCAAZK members, of themselves and/or an animal they care for, for use on the website and social media platforms (e.g. Facebook, Instagram). During the first three years since our AAZK chapter’s re-initiation in 2011, we conducted photography contests, and published a calendar with the top entries, voted by members. The calendar was sold as part of fund-raising efforts. WCS then did the same in 2014, which our chapter could not compete with, so we halted our contest. WCS only ran the contest for one year. I believe our members may be interested in re-visiting this idea, as the quick submission of 12 photos from NYCAAZK members within a few hours is testament to this.

Animal Planet has filmed three seasons of “The Zoo” at WCS parks. I have been lucky enough to have participated in two past episodes, and one in the coming season. While we try to include as many zookeepers as possible in my immediate work area, there are always zookeepers that don’t make it into the show. My newest pursuit born from this IAP, is my “Keeper profile of the month” video series which I plan on producing. I think this concept brings together the ideas of recognition as a means to improve employee morale with the use of social media to increase participation.

Garfield (2010) when discussing web videos advocates the creation of mini-documentaries, real stories starring real people, which he believes are truly engaging. My video series could help include those zookeepers that may feel ‘left out’ of the Animal Planet show. My video series would consist of short videos, asking the zookeeper simple questions such as: how long have they worked at the zoo, background, favorite animals, training successes and challenges, hobbies, whatever s/he wants to share. Garfield (2010), states some of the best stories contain a problem or challenge that was faced and overcame.

**Conclusion**

From my inquiry of AAZK Facebook pages, I learned that my chapter needs to improve our response time immediately. We should improve the regularity of posting
content to maintain our group of followers. Online communities do not replace in-person events. We should attempt to include as many event attendees as possible in photos, posting photos and/or video during the event if possible.

The important takeaways I found from this inquiry pertaining to video were:
create videos as long as they need to be and not longer; record keeper chats and presentations for web content; for event videos (i.e. promotional or reviews), create videos with text and images, there is no need for narration; preferably tell a story in the video, idea: discuss training challenges that were overcome; if scientific information is a component of the message, use terms the general public can easily understand.

Out of this IAP evolved my new initiative to help improve co-worker morale and participation: the "Keeper profile of the month" video series. This video series will combine visual components and employee recognition in an effort to make more zookeepers feel important, and offer each a voice and their chance to ‘shine’. This is my last IAP, and I want to give something positive back to my fellow zookeepers to make them feel better about themselves and have fun doing it!

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Exploring social media to improve zookeeper engagement and morale

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Appendix

Here is a link to my Google Sheet (I transferred data from Excel).
https://docs.google.com/spreadsheets/d/1OVGvc43gVS1rRkboi18NI55NMy3ktG-O3YciKVjRz6E/edit?usp=sharing