Tweetful Meaning: Student Perceptions of Twitter and Institutional Tweets

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This study examined student perceptions of both use of Twitter in general and the official Indiana University-Purdue University Indianapolis (IUPUI) Twitter account, @IUPUI. Focus groups were conducted to identify student perceptions of their interactions with the @IUPUI Twitter handle. Connections were made to student involvement and engagement theories. Implications for higher education professionals were addressed in the study's emergent themes: gathering information, choosing to engage, networking, and constructing a caring environment.

Since its inception in 2006, Twitter, a constructed virtual environment and popular social networking site, has provided a rich setting for collaboration and sharing of thoughts and ideas (Honeycutt & Herring, 2009). Boyd and Ellison (2007) defined social networking sites as:

Web-based services that allow individuals to (a) construct a public or semi-public profile within a bounded system, (b) articulate a list of other users with whom they share a connection, and (c) view and traverse their list of connections and those made by others within the system" (p. 211).

For the purposes of this study, we further indicated the use of social networking sites as tools for engagement due to the encouraged nature of interactions leading to increased breadth and depth of an individual's network.

Social networking sites, such as Twitter, fall under the larger scope of social media – a compilation of online platforms encouraging users to connect, collaborate, support, and share (Junco, Heiberger, & Loken, 2011). Because social media outlets allowed for real-time and asynchronous interaction from the convenience of personal technology (e.g. laptops, tablets, and mobile phones), the resulting environment was constructed and virtual in nature. Essentially, those not participating in social media did not have access to its constructed environment. Constructed environments were those that focus on the experiences and subjective views of participants (Strange & Banning, 2001), and it was assumed that constructed environments were best understood by the aggregate perceptions of the participants within them.

According to the National Survey of Student Engagement (NSSE, 2013), "technology has become interwoven into the college experience" (p. 23) and 96% of students indicated it was used during coursework. Furthermore, the use of technology in the classroom, in addition to courses focused on learning technology, has been positively linked with student engagement (NSSE, 2013). This indicates that prevalence of technology in higher education influences the way students communicate, collaborate, and experience relationships with both peers and the institution (NSSE, 2013).

In a Pew Research Internet Project, Duggan and Smith (2013) found that 73% of online adults now use a social networking site of some kind. In a preceding study for the same project, Duggan and Brenner (2013) revealed that

"the percentage of internet users who are on Twitter has doubled since November 2010" (p. 4). Social networking use amongst adults is growing, and the NSSE (2013) found that social networking sites comprise approximately 25% of technology used in the classroom. Therefore, higher education professionals must examine the impact social networking has on student engagement outside of the classroom (see Appendix A about Twitter and terms).

Although there was a large body of knowledge about Twitter use in classrooms (Coldwell-Nelson, Beekhuyzen, & Craig, 2012; Dunlap & Lowenthall, 2009; Grosseck & Holotescu, 2008; Junco, et al., 2011; Rinaldo, Tapp, & Laverie, 2011), limited research focused on student usage of Twitter and institutionally moderated Twitter accounts. For this reason, the researchers chose to study student perceptions of Twitter by analyzing student engagement with the official Indiana University-Purdue University Indianapolis (IUPUI) Twitter account, @IUPUI. This study sought to identify connections between student engagement and Twitter by examining student perceptions of institutional Twitter accounts in addition to overall student perceptions of Twitter. We used a constructivist approach by asking focus group participants to intentionally reflect on and describe their Twitter use to ultimately identify the value they attach to different types of Twitter interactions. The following questions guided the research:

1) In the constructed virtual environment of Twitter, how do students place value on various forms of interactions, connections, and communications?

2) How do students perceive institutionally moderated Twitter accounts?

3) How can higher education professionals utilize the answers to these research questions as a means to engage more fully with their students?

Literature Review

The following literature review presents two main topics to offer context for this study: relevance of social media to higher education professionals and discussion of involvement and engagement theories.

Social Media Savvy Professionals

It is important for higher education professionals to stay abreast of technological advancements that students are using such as social media technologies (Coldwell-Nielson et al., 2012). College students were highly involved in social media such as Twitter; therefore, it is important for higher education professionals to understand how to use these communication methods (Coldwell-Nielson et al., 2012). Higher education professionals utilized social media as a tool to increase student contact in order to help foster relationships (Junco et al., 2011). The literature also cited that using social media in the classroom increased student engagement (Blankenship, 2011; Dunlap & Lowenthal, 2009; Junco et al., 2011; Rinaldo et al., 2011). Dunlap and Lowenthal (2009) suggested using Twitter in the classroom allows students to tweet questions, learn to write concisely, and connect with faculty. This could lead to greater student interest in course material by encouraging interaction in a way that further enhances

learning (Blankenship, 2011; Rinaldo et al., 2011).

Faculty could create a social presence on Twitter that encouraged students to connect with their professors on a deeper level than the students would by simply coming to class (Dunlap & Lowenthal, 2009). Kuh and Hu (2001) stated that student-faculty interactions are considered high-impact practices in higher education and that creating these interaction opportunities are "important to learning and personal development" (p. 309). Twitter provided students and faculty with new and different ways to further interact, which enriches the academic experience and positively impacts the students. In addition to using social media in the classroom as an engagement tool, institutions adopted social media tools such as Twitter to help engage the community. Rinaldo et al. (2011) found that institutions will use social media to engage followers in discussions about their experiences, feedback, or perceptions of an institutional social media brand.

Technology was what differentiates today's traditional-aged undergraduates who were digital natives from the digital immigrants who came before them (Levine & Dean, 2012). Prevalence of technology influenced the way students communicate and experience relationships with both peers and the institution. While the majority of findings indicated the positive influences of social media, there were some drawbacks that researchers recognized when using social media in the classroom (Dunlap & Lowenthal, 2009; Grosseck & Holotescu, 2008; Rinaldo et al., 2011). Incorporating social media and other technological advancements into their courses could be daunting for many professors because they may lack experience and knowledge

about these technologies (Rinaldo et al., 2011). Furthermore, social media platforms were developed to enhance social and not academic interactions, and those limitations can hinder classroom utilization (Dunlap & Lowenthal, 2009). Also, some social media use could have addictive tendencies, which deters instructors from incorporating this technology into their courses because they may feel students are not as attentive during lecture (Dunlap & Lowenthal, 2009; Grosseck & Holotescu, 2008). Similarly, poor interpersonal communication skills were often viewed as a consequence of being limited to 140 characters per tweet (Grosseck & Holotescu, 2008; Levine & Dean, 2012). Instructors using social networking sites must intentionally structure coursework to minimize opportunities for distraction and to maximize engagement.

Involvement and Engagement Theories

Astin's (1999) involvement theory provided the framework for this study, which defined involvement as "the amount of physical and psychological energy that the student devotes to the academic experience" (p. 518). This notion of involvement was linked to time spent on a particular task and can be denoted with action verbs and phrases, such as "engage in, show enthusiasm for, or devote oneself to" (Astin, 1999). Because time was considered a finite resource, student involvement theory looked at the combination of time devoted and amount of energy invested by a student in a particular extracurricular activity to determine the degree of involvement (Astin, 1999). Supporting Astin's theory, Pascarella and Terenzini (2005) found a link between the amount of effort a student exerted in

curricular, co-curricular, and social activities and the overall impact the collegiate experience had on a student.

Although Astin's (1999) student involvement theory helped to explain students' interactions with institutions, it did not address the role of the institution or how it intentionally fosters student engagement. Wolf-Wendel, Ward, and Kinzie (2009) argued that it was important to distinguish between involvement and engagement. Wolf-Wendel et al. (2009) expanded upon Astin's (1999) theory of involvement to create a definition of engagement. This definition was similar to that of Kuh's (2001) research and focused on "how institutions in higher education allocate their human and other resources and organize learning opportunities and services to encourage students to participate in and benefit from such activities" (Wolf-Wendel et al., 2009, p. 412-413). "Involvement has been linked via research to almost every positive outcome of college" (Wolf-Wendel et al., 2009, p. 412), and the term "engagement" capitalizes on the initial strengths of Astin's theory and incorporates a component of institutional accountability. Due to the nature of this study, engagement best reflected the construct being examined. This research specifically examined how students not only navigate Twitter, but also how they perceived and directly interacted with tweets from @IUPUI.

Methodology

According to Mertens (2010), "By using an inductive approach, the research can attempt to make sense of a situation without imposing pre-existing expectations on the phenomena under study" (p. 225). Therefore, we chose to approach the topic of student engagement with @IUPUI using an inductive qualitative analysis of current students' perceptions shared during focus groups. We took a constructivist worldview in this study because we believed that participants develop independent individual meanings from their experiences within the constructed environment in which Twitter exists (Creswell, 2013). By taking this view, we were able to discover the ways in which participants construct meaning from their interactions with @IUPUI. Focus groups, as a method of research inquiry, were selected for this study to gather information about the "perceptions, beliefs, or opinions of the students or others who use campus facilities, services, or programs" (Schuh & Upcraft, 2001, p. 42), such as the @IUPUI institutional account.

Site and Sample

This study focused on the virtual environment of Twitter, specifically the student followers of the @IUPUI account. IUPUI was an urban, commuter, research university; located in downtown Indianapolis; and had a large, predominantly White student population. In fall 2012, IUPUI had more than 22,000 undergraduate students and more than 8,000 graduate and professional students (Trustees of Indiana University, 2013). The IUPUI Twitter handle in this study had 10,475 followers as of October 22, 2013. We specifically selected the Twitter handle @IUPUI since it was the primary institutional Twitter account for the university.

Efforts were made to protect the rights of the participants by obtaining permission from the Institutional Review Board (IRB) and following their guidelines in this study. Since we sought

to learn how students engage with the institution through the virtual environment of Twitter, we used criterion and chain sampling (Mertens, 2010). Criterion sampling was used when researchers had specific criteria that participants must meet to be included in the study (Mertens, 2010), and participants in this study had to be current undergraduate students at IUPUI and active followers of @IUPUI on Twitter. Participants were initially recruited by sending tweets from @TweetfulStudy, a Twitter account created specifically for this research project. We also implemented chain sampling, whereby participants were asked for the names of others who met the study criteria (Mertens, 2010). Also, the university professional that moderated the @IUPUI account agreed to assist with recruitment by tweeting original messages as well as retweeting communication from @TweetfulStudy. Individuals who had public Twitter profiles, indicated their undergraduate student status on their profile and followed @IUPUI. Participants were also invited to join through direct messages.

The final sample included 12 participants who ranged in age from 18 to 23 years old with an average age of 20.75 years old. Although @IUPUI has over 10,000 followers, it was beyond the scope of this study to identify how many of those are current undergraduate students who actively follow the institutional handle. Participants included six seniors, two juniors, four sophomores, and no freshman participants. Participants represented a diverse cross-section of majors, and although all were well versed in using Twitter, the length and frequency of use varied. All but one participant were involved students on campus. We defined the participants as involved

students because they were members or held leadership positions in campus life organizations such as Housing and Residence Life, Asian Student Union, and Paws Pantry, which were discovered during the focus groups and through sampling processes. In addition, two participants moderated the Twitter handles for their respective university organizations. To protect the identities of the students, participants were assigned pseudonyms for the data collection and analysis.

Collection

Participants took part in focus groups lasting no longer than one hour, led by two facilitators with one semi-structured note-taker present. Each focus group was audio and video recorded for transcription, which served as our primary source of data. Facilitators asked a series of open-ended questions and allowed time for students to clarify responses through follow-up questions (see Appendix B).

Analysis

We followed the six steps of data analysis as described by Creswell (2013): organizing, becoming familiar with, coding, richly describing, finding representative themes, and interpreting the data. Each step built upon the one prior in a linear approach. We used a systematic approach in coding the data from the three focus groups. First, the researchers each coded two focus group transcriptions and created two memos. These memos were general understandings of the information presented in the transcription. Second, the codes and memos were compiled to identify general themes. Lastly, the researchers classified the data into four themes: gathering information, choosing

to engage, networking, and constructing a caring environment.

Findings

From the analyses, four dominant themes emerged: gathering information, choosing to engage, networking, and constructing a caring environment. The first theme, gathering information, refers to students' retrieval of quick, reliable news updates including current events, campus safety, announcements, and on-campus happenings. The second theme, choosing to engage, speaks to students' inclination to capitalize on tweets and/or links because of relevance or in an effort to combat feelings of boredom. The third theme, networking, encompasses students' use of Twitter as a professional and social networking tool. The final theme, constructing a caring environment, emerged after discerning participants' value of a caring community, which manifests itself in the voicing of their opinions on institutional matters and the institution asking for their feedback. In addition, a caring community manifests itself when students are at the forefront when student affairs professionals make decisions.

Gathering Information

Gathering information refers to the ways in which the participants talked about Twitter as a means to obtain instant updates about various types of information. First, participants enjoyed using Twitter, in general, because of its ability to provide them with brief updates about various topics. Second, participants look to @IUPUI to find information about events happening specifically on-campus. Finally, participants used Twitter as a means to stay up-to-date on safety issues specifically on the IUPUI campus. Overall, participants expressed that their use of Twitter was a way to gather information.

Instant updates. Most participants in each of the three focus groups voiced news and information gathering as a reason for using Twitter in general. When asked about frequency and purpose of Twitter usage, the majority of students cited, at a minimum, daily consultations. In most cases, using Twitter multiple times a day was quite common, and participants perceived Twitter as the quickest, most reliable source of news. One participant named James provided the following explanation: "[I check Twitter] over 10 times a day…I think it is really good for…current events...[and] for breaking news…especially if you're not in front of the TV." Additionally, another participant, Maddie, cited daily use for class as well as using Twitter to "catch up on the news and…what [her] friends are doing." She also expressed her perception that "…a lot of us don't like watching the news, but if something really big happens then it will be on social media." Jane agreed that important news would always break first on social media.

Brevity and immediate accessibility seemed to drive participants' reliance on Twitter rather than other news outlets (e.g. email or websites), including IUPUI updates. One participant named Tim pointed out that Twitter was more frequently consulted than email. This point of view was confirmed by James who stated, "I'm not big on reading…I find out more about the events going on, on campus, through the Twitter handle [@IUPUI]." Conversely, another participant, John, stated, "I do read email, I keep myself updated, but…since IUPUI is on Twitter, why not follow them and…get some additional information?" Since

Twitter provides its users with up-to-date tidbits of information, the participants felt as if the social media platform is the most convenient way to receive instant updates.

Campus happenings. When asked why they follow @IUPUI, participants cited a variety of reasons related to campus happenings. Sam "follow[s] IUPUI's stuff [to] stay in the know and get alerts." Emmanuel provided a more specific example of using Twitter for on-campus updates due to his involvement: "I follow a lot of different fraternities, different chapters so I can be in the know about what they're doing." Because the majority of participants were student leaders, we asked probing questions to determine if their involvement prompted sharing information about campus events. Maddie stated, "I am really involved so...knowing what's going on at IUPUI is important." Maddie also added that she retweets the information that @IUPUI shares in order to spread the word about on-campus events with her followers. For the participants, it was important to know about and share tweets regarding on-campus events, which was their reasoning for utilizing Twitter as a means to obtain information.

Campus safety. Participants' reasons for gathering information from Twitter and, specifically, from @IUPUI also included comments about campus safety. Jane replied that she began following the institutional Twitter handle during a campus lockdown involving a potential shooter. Emmanuel was asked a follow-up question concerning the same situation about his choice to consult Twitter over other media sources, and he replied, "I looked at...[@IUPUI]...and I felt confident in what they told me." By and large, participants explained their use of Twitter as a means to quickly gather both general information and information regarding campus events and campus safety.

Choosing to Engage

As a part of gathering information on Twitter, participants discussed the ways in which they decided to engage further with that information. According to the participants, the first reason for engaging with tweets was out of pure boredom. The second reason for engaging with information on Twitter was due to that information's relevance to the particular user. We found that both reasons for choosing to engage with information were important to our findings because they described how students come to the decision to interact with tweets.

Boredom. When asked what motivates them to engage with information on Twitter, multiple participants described that they use the social media website simply when they are bored. For example, Sam stated, "I just get bored and check Twitter." Emmanuel added, "When I'm in class, I get on Twitter when I don't want to listen to the professor." Participants look to Twitter as a source of entertainment when they are not satisfied or engaged in their current situations. Participants described Twitter content as exciting and able to alleviate their boredom in certain situations. The participants' choices to engage with information on Twitter were not solely based on what is intellectually or socially stimulating to them; sometimes, they were using it because they felt bored.

Relevance. Participants clearly expressed that they make some kind of judgment whether or not content is

relevant to them. When asked, "What makes you engage in something that [@IUPUI] tweets out?" Emmanuel stated, "Something that's relatable," and Sam added, "If it is relevant." The majority of participants echoed this theme by using words such as "relevant" and "relatable" to describe their thought process before interacting with the content. Relevance, according to the participants, was defined in different ways. For example, James discussed being more interested in tweets about both local and global news, so he deemed those relevant and worthy of interactions. Maddie, on the other hand, talked about sharing information regarding campus events with her followers because, as a Resident Assistant, she felt that those events were relevant for herself, her residents, and other members of the IUPUI community that follow her on Twitter. In general, however, most participants agreed that they do not take in all of the information on their Twitter feeds. Sam illustrated this in her response: "I am just a silent observer…I just read the tweets if they apply to me…If they don't, I just scroll past them." Students pick and choose which tweets to interact with, even if that interaction is only reading the tweet in its entirety.

Networking

While Twitter, according to the participants, was a means to gather and engage with information and tweets, it was also a venue for networking. Throughout the focus groups, participants discussed relationships that they form and foster on Twitter. These relationships can either be social or professional in nature. The participants also discussed the potential for future employers to inquire about their personal social media websites, which adds a layer to the relationships that they can build using Twitter.

Professional networking. Multiple participants cited professional uses for Twitter, such as connecting to relevant news in their current or future career fields. When asked how they use Twitter, participants replied with varying answers, many of which pertained to engaging in networking and career-specific information with their colleagues across the nation. Other participants related professional networking specifically to @IUPUI when posed with the question, "What kinds of questions do you think IUPUI should ask?" In response to this question, Jane stated, "What are some of the things that IUPUI has helped you [to accomplish]? Like what kind of jobs are you getting…after you graduate?" These questions, if asked by @IUPUI, would further fuel students' perceptions that Twitter can be a helpful tool when professionally networking or inquiring about professional topics.

In addition to having conversations about professional development on Twitter, participants were interested in utilizing the social media site for connecting and sharing relevant, professional thoughts and events, both globally and locally, with @IUPUI. Sam cited her intended journalism degree as a main motivator for developing her personal brand via Twitter. Emmanuel shared his reason for professional use of his personal Twitter: "I really watch the things that I say [on Twitter] because I am...a senior and trying to get into grad school…I don't want to tweet nonsense…so I keep it really professional with my Twitter page." We also found that participants' use of Twitter depends on how close they are to progressing on from their undergraduate degree. Those

students like Emmanuel considered the effects an online presence may have on future educational goals or employment and work to ensure their online self was congruent with their physical self.

Social networking. According to participants, students at IUPUI are in search of an online community. Maddie, for example, described Twitter as an opportunity to build relationships. Additionally, Tim used Twitter as a means for personal socialization with his followers, and Emmanuel used Twitter to socialize with friends from high school and build relationships with the men in his fraternity. Each of these examples sheds light on the fact that Twitter, for the participants, can be a way to engage in relationship building with other users.

Other times, individuals used Twitter for sheer entertainment purposes, such as following celebrities or sharing jokes. One finding that surfaced was students' perceived responsibility to share pertinent information with their followers, such as the previously stated quote from Maddie about sharing information from @IUPUI with her followers. When engaging in information on Twitter for socializing and entertainment, multiple participants mentioned sharing relevant or important information with their followers, who might not otherwise be informed about issues that affect them. Whether this information related to @IUPUI or otherwise, students felt a duty to disseminate information about events as a way of socializing.

Constructing a Caring Environment

Participants expressed a desire for the institution to care about their opinions and experiences as students on campus. This type of caring environment was found to contribute to student success by Kuh, Kinzie, Schuh, Whitt, and Associates (2010), and it was fostered by providing an environment that is affirming and inclusive. Participants perceived the caring environment in different ways. First, the participants wanted the institution to consider their opinions in its decision-making processes. Second, the participants expressed an interest in voicing their opinions through Twitter for the institution to consider without being prompted by the institution itself. Third, the participants wanted the institutional Twitter handle to intentionally ask questions for their followers to answer, sparking conversation on the social media platform and to intentionally provide a way for the institution to gain information straight from the student population. Overall, the participants wanted to feel as if the institution cares about them as people, both within and outside of the social media platform.

First, participants stated that students should be at the forefront of the institutional administration's thought processes with regards to institutional decision-making. Emmanuel, for example, stated, "It shows initiative when they actually tweet their students back because we are the ones here...we are the ones who go through the motions every day." Specifically, James mentioned a recent institutional rebranding decision that upset many students, stating, "They didn't really ask students...if they did, I didn't hear about it." According to the participants, they would appreciate being more central in institutional decisions, and they commented that Twitter was a good avenue for soliciting their thoughts and opinions, which would lead to the students feeling like the institution cares for them as a whole.

Second, students expressed the fact that they voiced their concerns or opinions via Twitter without being prompted by the institution, especially in relation to topics that directly affected them. For example, Maddie stated, "I always want to tweet when I am angry at [the institution or institutional departments]." For the most part, participants wanted the institution to acknowledge their concerns or comments in substantial ways, such as responding with relevant information or an answer to their question. Lily, however, had another view: "I think students would feel like their opinions are valued as well so I think that would be a good tactic...even if they don't necessarily read it." Twitter provided a space for these participants to voice their concerns, whether or not administrators acknowledged those comments. Either way, Twitter could provide a student-perceived environment of care enabled by the institution when used as the students wanted.

Third, participants expressed an interest in the institution starting conversations on Twitter by asking questions. James stated, "I think it would be a good place if...they opened it up to more opinions and discussion." Mike added, "I'd be more likely to...comment or tweet back at them or something if they [asked questions]." By asking questions, the institution can show a more expressed interest in the opinions of its students, which can add to the caring environment that the students desire on Twitter. Asking questions could also begin conversations that could help the institution gather feedback straight from the student body.

Engaging with a faceless handle. In general, participants wanted to feel as if the institution cares for them, and they wanted to see this care through interactions on Twitter. While Twitter may provide a platform for expressing care, the fact that students were unaware of who is in charge of the institutional Twitter handle can make students uneasy and skeptical about the sincerity of their interactions with the handle. For example, Emmanuel said, "If I'm tweeting @IUPUI...I don't know who I am tweeting." The institution's Twitter handle had a generic, faceless photo and tweeted general information about the entire campus and many different campus organizations and departments, which was helpful for participants, but it added to participants' mistrust about where their comments and concerns ended up when they posted them on Twitter. For example, Maddie stated, "I don't think they are going to change any policies or do anything [as a result of my comments]." Overall, participants did not feel as if their comments would make a large impact on the campus or even end up in the right person's hands, but they still wanted the opportunity to voice them. The findings indicated that participants engaged with the institution via Twitter by expending their individual efforts and time in order to gather, engage, network, and benefit from constructed caring environments.

Limitations

This study was limited by its small sample size, although future research could expand upon the findings. Although this study had only 12 participants, the data gathered was rich and descriptive. The @IUPUI Twitter account has over ten thousand followers, but many of those individuals are alumni, staff, faculty, or community members who did not qualify to participate in this study. Given the

structure of Twitter, in that anyone could create and follow a particular Twitter handle, determining the total number of active, currently enrolled undergraduate students who follow IUPUI was beyond the scope of this study.

Due to the time parameters of the study, we were only able to conduct three separate focus groups with 12 total participants each attending one session. The experiences of these 12 students may not represent the perceptions of all of the students at the university. Related to participant perceptions, our second limitation was that 11 out of the 12 participants were involved students on campus, which could have influenced their comments due to their pre-existing affiliation with the institution. Since these participants made an investment in time and effort through various student organizations or units in the institution, this would be reflected in the degree of engagement they would perceive to have with the university (Astin 1999; Pascarella & Terenzini, 2005). Perhaps, the involved participants had positive experiences with the IUPUI Twitter account because they already had positive experiences with the university. However, examining the perspectives of highly engaged students provided valuable information on how to further encourage these kinds of engaging relationships between students and the institution.

Finally, all members of the research team were Twitter users, and some were avid Twitter users, often sending and receiving tweets multiple times per day. Therefore, some interpretations of research findings may be biased towards Twitter as a useful tool for engagement, although we tried to limit personal biases by having multiple coders of varying levels of Twitter use for each focus group. This approach was meant to ensure more

researchers, who would identify as "avid" Twitter users, would code participant responses.

This study could contribute to the knowledge of higher education professionals by helping them to understand how students interact with institutional Twitter accounts. However, additional research is needed to gain a more thorough understanding of these types in interactions. Additional studies should focus on students who follow institutional Twitter accounts who are not involved on campus.

Discussion

These research findings suggested a connection between student engagement and the virtual environment. These findings were supported by Astin's (1999) theory of student involvement, which incorporated the constructs of individual effort and time on task. The theory of involvement pertained to social, co-curricular, and curricular involvement as well as students seeking out this type of information from campus Twitter accounts. Astin (1999) described the effectiveness of involvement practices as being measured by their capacity to increase student involvement. Therefore, when institutions used Twitter to increase awareness of campus involvement opportunities, it increased the likelihood of student engagement with the university, especially participation in these co-curricular experiences.

Students made the decision to act upon information from Twitter if they felt it is relevant to them. Therefore, this type of Twitter engagement was defined by primarily two factors: how students acted on the information provided and how institutions made tweets relevant to

students. This construct was supported by Wolf-Wendel et al.'s (2009) definition of engagement that consisted of elements of action from both the student and institution. Although we do not suggest that student Twitter use would directly result in college success, it can be used as a tool to support additional student engagement outside the normal confines of the classroom setting. Furthermore, Kuh et al. (2010) found that increasing engagement in any form contributed to greater chances of student success.

Finally, students wanted to relate in meaningful ways to the institution that they attend. Kuh et al. (2010) found that in order to foster student learning, institutional environments need to be "perceived by students as inclusive and affirming…" (p. 8). These findings indicated that virtual constructed environments, like Twitter, may be just as important to student learning as other types of college environments (Kuh et al., 2010, p. 282) and, as such, should also be perceived as affirming and inclusive. Twitter may also assist institutions in becoming what Kuh et al. (2010) described as a supportive campus environment. Supportive environments were ones that help students succeed academically, navigate nonacademic responsibilities, and thrive socially (Kuh et al., 2010). Higher education professionals and organizations can use this data as a means to engage more fully with their students by providing up to date information to keep students abreast with pertinent campus information, delivering information that students think is relevant, offering both social and networking opportunities, and fostering an environment of caring.

Implications

While this study focused specifically on the virtual, constructed environment of Twitter at IUPUI, this research may prove useful with other institutions and with future research. There were clear themes in this study that higher education professionals can adapt to their institutions. First, student perceptions of Twitter in general and @IUPUI provided insightful information about how higher education professionals and staff at an institution can best use the social networking site to meaningfully engage students in conversation about topics and issues that matter to them. Participants within each focus group shared what topics they found relevant as well as what the university could do to evoke a better response from students on Twitter, such as asking questions and requesting feedback on certain issues.

Second, these findings suggested students have been increasingly turning to Twitter for immediate news information. Higher education professionals should continue to increase the way in which they utilize institutional Twitter accounts, as well as school or department accounts, to disseminate pertinent information relevant to current students. These findings suggested students are consuming information on Twitter at a consistent rate. Therefore, by utilizing Twitter as a tool to disseminate institutional information, more students can be kept up to date about information concerning institutional news, safety information, and general announcements.

Additionally, one issue that higher education professionals who utilize Twitter may face was a lack of interaction with students, even those who follow a particular university Twitter handle. One solution that participants suggested for @IUPUI was intentionally providing a variety of regularly scheduled tweets for

different students, from all across campus to engage differently, depending on their interests or identities. This practice allowed a breadth of students to choose to meaningfully engage in Twitter messages they found relevant to their individual majors, involvement interests, hobbies, or other identities. As the institutional Twitter handle should be applicable to all students, higher education professionals should send messages representative of the entire student body, continuing to collaborate with other professionals in campus departments and academic units to promote and highlight each area equally.

Furthermore, multiple students cited personal use of Twitter to network with professionals, organizations, and prospective graduate schools, as well as to establish their personal brand on the social media site. Professionals, especially those within career services offices, should recognize students' need for virtual and in-person congruence of image and host programs, specifically on Twitter etiquette to increase students' professional use of Twitter. The same could be said about educators working with students in a conduct setting. This practice would not only help students maintain a respectable image on Twitter for their future employers but it would also uphold the university's image.

Finally, in order to construct a caring environment through Twitter's virtual environment, institutions must intentionally engage with students by structuring their social media presence to be as interactive as possible. Student-centered messages should largely dominate a university's Twitter handle

and include a variety of content to appeal to as large an audience as possible. Asking students for their input on these diverse topics could allow students to perceive a caring environment. Universities could also foster this type of environment by being receptive and responsive to student thoughts, suggestions, and concerns in order to validate the student's sense of institutional belonging.

Conclusion

In this study, the researchers examined student perceptions of Twitter both in general and of an institutionally moderated Twitter handle by facilitating focus groups and finding the following themes: gathering information, choosing to engage, networking, and constructing a caring environment. Higher education professionals could benefit from this research because this study suggests ways in which Twitter could be utilized in more effective ways to both engage students and receive direct feedback from them. Future research could focus on the use of Twitter outside of the classroom as it relates to student development. Also, research could be done to shine light on students' cognitive development as it is shown through the act of tweeting. Ultimately, higher education professionals must acknowledge the presence of social media in the lives of current college students, and, furthermore, they must understand how to capitalize on that presence in order to provide students with meaningful engagement opportunities during their college experiences.

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Appendix A: Twitter Terminology Definitions

Because this research topic delves into the world of social media, and more specifically Twitter, the terms used throughout may appear unorthodox. Twitter, as a social media platform, has its own language that a majority of its users understand. Since, however, we acknowledge a lack of understanding and use of Twitter in higher education, it is necessary to define the terms that we will use throughout the development of our research.

To begin, Twitter, as stated on the website, is a "service for friends, family, and co-workers to communicate and stay connected through the exchange of quick, frequent answers to one simple question: 'What are you doing?'" (Dunlap & Lowenthal, 2009, p. 130). One can join Twitter by visiting the website (www.Twitter.com) and choosing a Twitter "handle," which is defined as one's username on the site that appears as @username when in use (Twitter, 2013). After joining Twitter, one then begins to "follow" other Twitter users, which means to subscribe to those users' tweets, or short messages sent out using Twitter. An aspect of Twitter that makes it different from other popular social media sites is that it limits the length of a message to 140 characters.

Once a member of Twitter, one begins to tweet. "Tweet" is a term that can be used both as a verb and a noun (Twitter, 2013). The act of "tweeting" is the sending of messages, and a tweet is the message itself. After one tweets and takes in the tweets of others, the interactions can commence. Twitter developed terms for how users interact with each other on the site. One way to engage with others is to "favorite" their tweets, which is designated by a small star icon next to the message. "Favoriting" tweets places all of those tweets into a separate category on one's own Twitter page and also lets the original sender know that he or she liked the message.

The act of "mentioning" another user in a tweet is another form of engagement on Twitter. This occurs when one actually uses another's handle in the body of the message, which will appear as @username (Twitter, 2013). This form of interaction can also be called @mentions, which when read aloud is "at-mentions."

Another form of Twitter interaction that can bring users together is the use of hashtags in the body of a tweet. Creating a "hashtag" means using the # symbol to mark keywords in the message (Twitter, 2013). Hashtags not only allow one to highlight the key words or phrases, but they also group relevant tweets together. All of the tweets that include #college in them are then organized together so that by clicking on the hashtag, one can view all of the tweets that include #college.

A final way to engage on Twitter is the act of "retweeting." To retweet a message means to forward a tweet from someone one follows to all of the people who follow him or her, or one's "followers" (Twitter, 2013). One can also embed a tweet in quotes or add RT (retweet) or MT (modified tweet) to the beginning of a retweet in order to add one's own words to the message. All of these terms will help us ground our discussion about the use of Twitter by higher education professionals and how students perceive interactions with institutional handles on Twitter.

Appendix B: Focus Group Interview Protocol

- Introductions (Hi, we are…)
- **Overview of study:** The purpose of this study is to understand how students perceive different types of institutional Twitter communication, specifically communication from the IUPUI Twitter handle so that a ranking of Twitter interactions can be created.

Focus Group Interview protocol

General Questions. Now we are going to ask you some general questions but first we'd like you to choose a pseudonym or a name that is not your own to help with confidentially

Please tell us about your Twitter use.
1. Why did you join Twitter?
2. How long have you used Twitter?
3. How frequently do you use Twitter?
4. Describe how you use Twitter.

Twitter Motivation Questions
1. What motivates you to use Twitter?
2. Why do you follow specific Twitter handles?
3. Why did you decide to follow @IUPUI specifically?
4. How do you interact with the @IUPUI Twitter handle?
5. How do you interact with your friends on Twitter? How do you interact with institutions on Twitter? How are these tow types of interactions different? What causes you to engage differently?

Twitter Definitions
1. How do you define a Tweet?
2. How do you define a Retweet?
3. How do you define an @mention?
4. How do you define a Favorite?

Twitter Perceptions Questions
1. How do you decide which action(s) to take… to Tweet, Retweet, @mention, or Favorite?
2. Does Retweeting (etc.) a post make you feel like you are interacting with the handle that originally posted it? How so[LLA2] ?
3. Why do you favorite a post? How does it make you feel when you Favorite a post?

Twitter Ranking Questions
1. Are certain types of Twitter communications more valuable to you that others? If so, why?
2. When you post things to Twitter, what is the difference between a Tweet, Retweet, @mention, Favorite? Rank these Twitter actions in the order that you value them.
3. When IUPUI posts to Twitter, what is the difference between a Tweet, Retweet, @mention, Favorite?

Ranking Handout Questions
1. Why did you rank these Twitter actions in this order?
2. Why did you rank _____ higher than _____?
3. Are you more likely to interact with a particular type of Twitter communication versus another when they post? Tweets? Retweets? @Mentions? Favorites? If so, why?

4. Are you more likely to interact with a particular type of Twitter communication versus another when @IUPUI posts? Tweets? Retweets? @Mentions? Favorites? If so, why?