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EDUCATING THE ALWAYS-ON GENERATION IN AN INSTANT(GRAM) #BLENDEDLEARNING

ABSTRACT

The anticipated Fourth Industrial Revolution and the non-linear sharing of information have afforded tertiary education institutions with opportunities to apply new technology to their pedagogy model. The prominence of social networking sites (SNSs), specifically Instagram, calls for educational institutions to innovate and acknowledge, as well as apply, these SNSs within an innovative blended learning approach. This study aimed to analyse students' perspectives on the use of Instagram as a blended learning educational and administrative tool in tertiary education. While the use of Facebook as an educational tool is widely researched, limited studies exist on the use of Instagram in tertiary education. The expectation is therefore set on tertiary education to apply Instagram for effective communication and an enhanced teaching experience. The Instagram account created by the research team as a blended learning tool had more than 270 student followers. Their perceptions of the use of Instagram in tertiary education were evaluated using a questionnaire approach and analysed as continuous data on a five-point Likert scale. By using a one-way t-test, the preferred blended learning approach to be implemented on Instagram was determined. Open-ended questions were asked to obtain a better understanding of what students expect and prefer from the use of SNSs, specifically Instagram, in tertiary education. While previous research only focused on the possibility of the implementation of Instagram and the use of videos on Instagram, this study indicates how tertiary education can apply the various functions of Instagram within an innovative blended learning approach. The study found that Instagram creates an always-on learner, who thinks about the module outside of lectures. Students perceive it as an effective educational tool in aiding them to understand difficult topics better, as well as an administrative tool that complements the current administrative systems. The overall perception was concluded to be that Instagram is welcome in tertiary education, with both the lecturer and the student as the driving force.

Keywords: *Instagram, technology, tertiary education, blended learning, iGeneration, always-on learning*

1. INTRODUCTION AND BACKGROUND

The introduction of social networking sites (SNSs) have gone viral and so has the use thereof by its digital natives, the iGeneration, the demographic cohort born in

1994 and after. While the natives have quickly adapted to this change, the use of SNSs for educational purposes within the tertiary education milieu is still adapting (Jovanovic, Chiong & Weise, 2012). The current problem is that the fast pace at which SNSs are developing leaves tertiary education institutions with the option to either adapt at the same pace or exclude certain SNSs from their pedagogy model (Tess, 2013). Brown (2011) established that the latter is not a feasible option and that the tertiary education model should be as current and mobile as the students. The introduction of Instagram in the tertiary pedagogy model of a first-year financial accounting module aimed to address this objective of always-on learning and to adapt the tertiary education model to the current iGeneration student population.

An SNS can be defined as an individual web page or application that obtains data from a browser or web page, which creates online human interaction by collecting and sharing information with specific and non-specific people (Kwon & Wen, 2010). The use of Facebook was on the rise in 2010, with Facebook being one of the most popular SNSs among the tertiary education age cohort of 18 to 24 years. Roblyer, McDaniel, Webb, Herman and Witty (2010) suggested that Facebook could be used to support lecture sessions in tertiary education; however, the literature on the successful implementation thereof is limited. In the time since the research was performed in 2010, the tertiary model started to adapt and implement the use of Facebook; however, a new SNS, Instagram, was introduced in the same year. Instagram has since risen to prominence with an active participation of one billion monthly users in 2019, mainly in the 18 to 24 age cohort, while the use by this age cohort of Facebook experienced a decrease in users (Clement, 2019a; 2019b). Instagram is an SNS used to upload and share photos and videos. The service also allows different interfaces such as users having the option to pose questions and using polls on statements made by users. To meet students on the fast-paced road, Instagram was adopted and incorporated in the pedagogy approach and therefore developing a blended learning approach to suit the always-on generation by using the platform where the generation is "always on". This aimed to enhance student contact time outside of the face-to-face lecture environment.

The problem identified by previous research indicated that disruptive forces such as the fast pace of change and non-linear access to information that influence tertiary education could best be addressed by exploring new solutions (Milliron, 2008). The new problems require new and relevant strategies to determine how educators can use SNSs to engage students. Because of these rapid changes and disruptive forces, an SNS like Instagram might relate to students in a form that they know and in which they might be comfortable. Therefore, Instagram was used in a first-year financial accounting module to engage students in the module and to connect with them outside the lecture hall environment on an academic and an administrative level. In addition, visual images were used to transfer and establish the students' understanding of difficult concepts and topics in the module. By using these images, the transferability of these constructs was aimed to enhance the students' fundamental grasp of the module. The Instagram account offered students an open line of communication with questions that can be sent to the administrators at any time. With the combination of the grounded theory obtained from studies regarding the use of SNSs in tertiary education, the framework is set to investigate the use of another SNS, Instagram, which led to the use of an exploratory approach.

The main objectives of this exploratory study focused on the successful use of the Instagram in a South African university. The study aimed to achieve the following specific objectives:

1. To analyse the students' perspective on the successful use of Instagram as a blended learning educational approach and as an administrative tool in tertiary education.

2. To evaluate the perceptions that students have of the possible uses of an SNS, specifically Instagram, within the tertiary education milieu.

This study used a questionnaire approach to obtain the perceptions of the students regarding the use of Instagram in tertiary education. The sample for the study comprised first-year students registered for an accounting module. This module is an introductory business module and includes students across different faculties, including Economic and Management Sciences and Agricultural Sciences. This research aims to contribute to the existing literature on the use of SNSs in tertiary education by evaluating whether Instagram as a platform of blended learning could be a feasible student aid, as well as suggesting successful implementation methods noted from the research.

In order to obtain meaningful benefits from the use of Instagram, it is important to understand the expectations held by the students that were identified by obtaining students' perceptions of the use of Instagram in tertiary education. Next follows the review of the existing literature, which provides an overview of the implementation of other SNSs within tertiary education and a background of Instagram. This leads to the discussion of the findings and lastly the conclusion.

2. LITERATURE REVIEW

The existing literature has shown the prominence of SNSs within education since 2004. This followed after SNSs were first introduced in other spheres, including the creation of brand communities and marketing (Harrison & Thomas, 2009; Hung & Yuen, 2010; Muniz & Guinn, 2001; Sundarraj, Kaliyamurthie & Udayakumar, 2016). The introduction of SNSs in education was received well by students, with multiple studies showing a positive response by students to the use of SNSs as an academic tool in tertiary education (Hung & Yuen, 2010; Irwin, Ball, Desbrow & Leveritt, 2012; Ophus & Abbitt, 2009). Since the studies were conducted, the SNSs available to use in tertiary education have increased and the users have changed; thus, leading to the question whether the newly introduced SNSs are similarly received by students as those that were the topics of previous research.

A strong body of research exists on the use of the largest SNS, Facebook, in tertiary education. It has been found that students experience the use of Facebook as valuable in their courses, especially in encouraging conversations in face-to-face lecture time and improving communication between students (Ophus & Abbitt, 2009; Pempek, Yermolayeva & Calvert, 2009; Shraim, 2014; Tess, 2013). The research on the use of SNSs has expanded as another new SNS, Twitter, was introduced. Twitter is used as a platform to encourage collaboration between students, to share administration information, as a form of peer feedback, as well as an outside-of-lecture contact and teaching platform (Junco, Heiberger & Loken, 2011; Kassens-Noor, 2012; Lowe & Laffey, 2011). The move in the adoption of SNSs, as well as the field of research, from Facebook to Twitter, indicates the fast-moving pace of technological development and the influence of the anticipated Fourth Industrial Revolution on tertiary education.

Part of the anticipated Fourth Industrial Revolution is the increase of non-linear access and sharing of information. Instagram is an SNS built around the access and sharing of information and could be the steppingstone of tertiary education in this revolution. Instagram is a free visual image- and video-sharing app where people can upload photos or videos, with a length of up to 60 minutes, and share them with their followers or with a selected group of people/

students (Instagram, 2019). Since Instagram is an SNS where information can be presented in a visual format and without a length restriction, it holds the potential to be a useful platform and educational tool. The potential of Instagram as an educational tool is rooted in the increase in the retention rate of information experienced when information is presented in a visual format (Al-Bahrani & Patel, 2015; Levie & Lentz, 2017). Although Facebook has more users than Instagram, and remains popular among young adults, teenagers are abandoning Facebook for the likes of Instagram and Snapchat, as recent research has found (Duncan, 2016; Lang, 2015; Matthews, 2014). Years later, these teenagers find themselves within the tertiary education system and spend more of their time on Instagram than on Facebook (Alhabash & Ma, 2017). Furthermore, students engage in their social media accounts more often than their e-mail or their electronic course management system. Instagram can be a useful administrative and educational tool as it allows students and teachers to communicate easily beyond office hours and face-to-face contact lectures (Al-Bahrani, Patel & Sheridan, 2015; Handayani, 2016; Khalitova & Gimaletdinova, 2016). Based on these benefits associated with the use of SNSs within tertiary education, this study evaluated Instagram as an outside-of-class educational and administrative tool in a blended learning environment.

Blended learning has numerous definitions due to the context and the developers of blended learning instructions (Caner, 2012; Graham, 2006; Procter, 2003; Kim, 2007). These studies indicate that blended learning is the effective combination of different modes of delivery, models of teaching and styles of learning. Two blended learning approaches that have been developed is one where face-to-face interaction is replaced by e-learning activities, and the other is a model where supplemental materials are optional and not explicitly scheduled and where students can decide which supplemental material they would like to use (Bersin, 2004). Instagram was used in this study as a supplementary tool, since not all students have access to SNSs, and therefore it was not compulsory to use this tool. It was also applied as an administrative tool.

Limited previous research was found on the use of Instagram as a tool in tertiary education. Previous research focused on the possibility of the implementation of Instagram in education, students using Instagram to write descriptive essays and Instagram used to post videos to evaluate listening comprehension (Akhiar, Mydin, Akma & Kasuma, 2017; Al-Bahrani & Patel, 2015; Handayani, 2016; Khalitova & Gimaletdinova, 2016). This study evaluated the success of an implemented Instagram account in a first-year financial accounting module as a blended learning educational and administrative tool with the lecturer as the driving force. The study further analysed the perceptions of students as the users, as opposed to the perceptions of the content creators, namely the educators.

3. RESEARCH METHODOLOGY

This study incorporated not only a qualitative but also quantitative approach to evaluate the use of Instagram in tertiary education. The qualitative analysis was based on the exploratory research data obtained from the descriptive design questionnaire. The qualitative analysis was aimed at reaching the objective of analysing students' perceptions of the possible uses of Instagram and other SNSs in tertiary education. The quantitative analysis obtained from this questionnaire is based on Likert-scale designed statements, with options (1) fully disagree to (5) fully agree, in the questionnaire that measured the students' perceptions of the success of the use of Instagram in tertiary education.

The research team circulated the questionnaire during a face-to-face lecture of the 2019 first-year financial accounting students. The sample of students comprised all first-year financial accounting students who attended their respective lectures on the day of the questionnaire distribution. This is the sample at whom the Instagram account was directed. This sample of students was considered representative of the first-year population, as various students of different faculties are enrolled in this module. The students were given the opportunity to complete the questionnaire before the formal lecture commenced. The questionnaire comprised open- and closed-ended questions and the questions were developed from previous studies in the field of accounting on student perceptions by Steenkamp, Baard and Frick (2009). Steenkamp *et al*.'s (2009) research was chosen as the base of the questionnaire as their study was conducted on students within the same faculty at the same university and was adapted to the understanding of the students questioned and for the use of SNSs.

To address the objectives set by this study, the results of the questionnaire completed by the students, both those following the Instagram account and those not following the Instagram account, were analysed. The analysis of the exploratory research performed using the open-ended questions was conducted to determine the perceptions of the future possible uses of Instagram and other SNSs in tertiary education. The perceptions of students currently following the Instagram account were analysed to determine the success of the current application of Instagram in tertiary education as a blended learning tool. To determine whether the perceptions of the students were positive or negative towards the use of Instagram, a comparative analysis was performed by using parametric statistic techniques that are deemed as appropriate for Likert-scale data (Norman, 2010). The students who did not follow the account could not be seen as a comparative group as they had no exposure to the use of Instagram in tertiary education. A one-sample t-test comparison was therefore conducted on each question, using a mean value score of 3 as the neutral point (the comparative group). This was done to indicate a significant positive or negative perception. Two negative statements included in the questionnaire were reverse coded to obtain comparative results used in the t-test performed on latent variables. A 95% confidence level was used and all items with p-values <0.05 were deemed statistically significant; this is indicated in bold in the tables presented. The latent variables were determined by the research team by allocating statements to either one of the four different categories: firstly, the enhancement of students' participation in the module; secondly, the enhancement of learning; and thirdly, the administrative function of the SNS. Lastly, the students' overall perception of Instagram within tertiary education was measured. In order to test the reliability of the results obtained from the questions as well as the accuracy of the measurement of the latent variables, a robustness test calculating the Cronbach's alpha levels were performed. A further one-sample t-test comparison was conducted on the latent variables to determine the significance of the positive or negative perceptions held by the students.

4. FINDINGS

In the findings, the descriptive analysis is reported after which the statistical analyses and discussion follows.

4.1 Descriptive analysis

Valid and complete questionnaires were obtained from 631 respondents, which represent 11.67% of the potential population of 5 405 first-year Stellenbosch University students. The percentage coverage of the population is deemed statistically representative of the

total first-year student population. Based on the data obtained from the questionnaire, the most popular SNS used by first-year university students is Instagram, with 87.96% (n=555) of students using it, followed by Facebook with 59.59% (n=376) of the population. LinkedIn and Twitter were at 5.2% (n=33) and 16.96% (n=107) respectively, while 12.52% (n=79) of the students indicated the use of other SNSs. From the study performed, it is suggested that the previously stated teenagers who abandoned Facebook and moved to Instagram are now finding themselves in tertiary education, which makes Instagram a suitable platform to reach students. The results of the first-year group indicated that 69.73% (n=440) of the students perceived that academic modules could make effective use of Instagram within tertiary education. This indicates that an SNS such as Instagram shares the same perception of usability within tertiary education as others such as Facebook and Instagram (Irwin *et al*., 2012). Further discussions regarding these different uses are presented in the statistical analysis. The counter-group comprised 24.09% (n=152) of the respondents who indicated that academic modules cannot use Instagram effectively within tertiary education and 6.18% (n=39) of the respondents withheld an opinion. The perceptions of students who indicated that Instagram could be used in tertiary education were further analysed with regard to the driving force behind SNSs, with 19.65% (n=124) preferring lecturers to be the driving force behind the use of SNSs for academic purposes, while 15.06% (n=95) preferred students to be the driving force. Most of the students, 53.88% (n=340), preferred lecturers and students to be the driving forces. In this study, the lecturers were the driving force behind the implementation of the SNS; therefore, further research could be conducted on the combination of students and lecturers as the driving force, which might increase the overall positive perception of the use of Instagram in tertiary education.

The allocation of latent variables to the statements posed to the group who followed the Instagram account is indicated in Table 1. The results of the reliability and accuracy test are tabled as well.

All the Cronbach's alpha levels, with the exception of Instagram as an administrative tool, were consistently higher than .70 and therefore the scale of measurement was considered acceptably reliable for these items (George & Mallery, 2016). In order to assess whether the scale of measurement for Instagram as an administrative tool was considered reliable, the average inter-item correlations were calculated as 0.481, which is between 0.15 and 0.50 and therefore considered reliable (Clark & Watson, 1995). All the results of the perceptions of the first-year students were therefore analysed further.

4.2   Statistical analysis

In order to analyse the perceptions of first-year students on the different statements and latent variables, a t-test statistical analysis was performed. The analysis was performed per statement and per latent variable. The variables identified by the research team were participation, educational tool, administrative tool and overall perception.

4.2.1   Participation: Perception of Instagram as an out-of-class active participation blended learning instrument

The first four questions related to Instagram being used as a blended learning tool to increase outside-of-class participation in the module. In Table 2, the results suggest that students were motivated to think about the module outside of lecture time. A mean of 3.582 was observed, significantly higher ($p<0.05$) than the neutral point of 3, which suggests that Instagram creates

an always-on learner. The results of this study are in line with previous studies for other SNSs such as Twitter and Facebook as found by Kassen-Noor (2012).

Table 1: Questionnaire items and reliability scores

Latent variable	Statements	Reliability & Accuracy
Perception of Instagram as an out-of-class active participation blended learning instrument	The Funrek188 Instagram account made me more eager to participate in the module.	Cronbach's alpha = 0.769
	Following the Funrek188 Instagram account motivated me to think about the module outside of lecture time.	
	The use of the Funrek188 Instagram account made me feel more connected to the module.	
	The use of the Funrek188 Instagram account made me more connected to my fellow students.	
Perception of Instagram as an educational blended learning tool	The use of theoretical visual images on the Funrek188 Instagram account made me understand difficult topics better.	Cronbach's alpha = 0.779
	The use of comical visual images with detailed descriptions on the Funrek188 Instagram account made me understand difficult topics better.	
	The "ask me a question" function on the Funrek188 Instagram account enhanced communication between me as a student and the lecturers.	
	The "ask me a question" function on the Funrek188 Instagram account was more accessible than other means of contact, such as e-mail.	
Perception of Instagram as an administrative tool	The use of the Funrek188 Instagram account was more convenient than the use of SUNLearn.	Cronbach's alpha = 0.633
	The Funrek188 Instagram account kept me administratively informed of module administration.	
Overall perception of Instagram and social media within tertiary education	Following the Funrek188 Instagram account enhanced my overall experience of the module.	Cronbach's alpha = 0.727
	I would prefer that academic activities are not conducted on social media platforms. (Reverse coded.)	
	The Funrek188 Instagram account was not worthwhile following. (Reverse coded.)	

Table 2: One-sample statistic results

Statements	N	Mean	Std. deviation	Std. error mean	p-value
The Funrek188 Instagram account made me more eager to participate in the module.	155	3.032	1.016	0.082	0.693
Following the Funrek188 Instagram account motivated me to think about the module outside of lecture time.	158	3.582	1.078	0.086	0.000
The use of the Funrek188 Instagram account made me feel more connected to the module.	157	3.299	1.016	0.081	0.000
The use of the Funrek188 Instagram account made me more connected to my fellow students.	154	2.416	1.130	0.091	0.000

The students perceived the Instagram account as not making them feel more connected to fellow students, which could be attributed to the lecturers being the driving force of the Instagram account in this research study. Most of the students preferred that lecturers and students be the driving force behind SNSs. The results above, except for students feeling more connected to one another, are more than the neutral point of 3, with two of the three statements being significantly above the neutral point ($p<0.05$). The combined results of the perception of Instagram as a participation tool are indicated in Table 3.

The results in Table 3 indicate two test results for the same latent variable, namely participation. The second test excluded the following question: "The use of the Funrek188 Instagram account made me more connected to my fellow students". Since the lecturers were the driving force behind the Instagram account, it is suggested that this could affect the perception of students of feeling more connected to one another. In future studies, students could form part of the driving force of the Instagram account and the question can be considered.

Table 3:   One-sample t-test

Latent variable	Test value = 3		
	t	Df	p-value
Instagram used as a blended learning tool in order to increase participation by students.	1.367	158	0.174
Instagram used as a blended learning tool in order to increase participation by students (excluding "The use of the Funrek188 Instagram account made me more connected to my fellow students").	4.406	157	0.000

As expected, the attitude towards Instagram used as a tool to increase participation was not well accepted (t=1.376, p>0.05), since the students did not perceive being more connected to their peers, as stated above. When performing the t-test on the latent variable after removing the question, the results suggest that Instagram increases participation by students (t=4.406, p<.05).

4.2.2   Educational tool: Perception of Instagram as an educational blended learning tool

Instagram has multiple functions that can be used as educational tools. The critical concepts that were discussed in face-to-face lectures were either summarised in visual images that were presented with detailed descriptions below the image or using a visual image that is theoretical in nature and therefore not needing a detailed description. At the end of each chapter lectured, summaries of the important concepts were shared with the students on Instagram. A further function was used, called the "ask me a question" function, where questions could be asked to the lecturers on Instagram. Each of these functions was included in the questionnaire in different questions, as seen in Table 4.

Table 4: One-sample statistic results

Statements	N	Mean	Std. deviation	Std. Error mean	p-value
The use of comical visual images with detailed descriptions on the Funrek188 Instagram account made me understand difficult topics better.	158	3.652	1.105	0.088	0.000
The use of theoretical visual images on the Funrek188 Instagram account made me understand difficult topics better.	158	3.608	0.976	0.078	0.000
The "ask me a question" function on the Funrek188 Instagram account enhanced communication between me as a student and the lecturers.	136	3.368	1.228	0.105	0.001
The "ask me a question" function on the Funrek188 Instagram account was more accessible than other means of contact, such as e-mail.	129	3.411	1.229	0.108	0.000

The students found the use of comical visual images with detailed descriptions, as well as the use of theoretical visual images, useful to understand difficult topics better. Both these questions had a mean significantly above 3 ($p < 0.05$). This perception of students regarding the use of visual aids in teaching enhances the study by Levie and Lentz (2017). To determine the overall perception of "Instagram used as an educational blended learning tool", a one-sample t-test was performed; the results are displayed in Table 5.

Table 5: One-sample t-test

Latent variable	Test value = 3		
	t	df	p-value
Instagram used as an educational blended learning tool.	7.200	158	0.000

The students perceived Instagram as a significantly effective educational blended learning tool ($t = 7.2$, $p < 0.05$). This was further confirmed by the open-ended questions, since the students indicated that they perceived visual images and summaries presented on Instagram as a possible use of Instagram in tertiary education. Some of the responses from the students were as follows:

> *"Explain difficult topics in a fun but useful way."*
>
> *"Help understanding topics in a more relatable way; in class it may be confusing sometimes."*
>
> *"It should be used regularly to add comedy to the theory; it helps people to remember it."*

4.2.3 Administrative tool: Perception of Instagram as an administrative tool

The research team found that students engaged with their SNSs more often than their e-mail or the electronic course management system. Table 6 indicates the statistical results of the questions relating to Instagram as an administrative tool.

Table 6:   One-sample statistic results

Statements	N	Mean	Std. deviation	Std. error mean	p-value
The use of the Funrek188 Instagram account was more convenient than the use of SUNLearn.	153	2.660	1.28	0.104	0.001
The Funrek188 Instagram account kept me administratively informed of module administration.	158	3.342	1.033	0.082	0.000

As suggested by the results, Instagram kept the students administratively informed, with a mean of 3.342, which is significantly (p=0.000) greater than 3. It was indicated, however, that it was not perceived to be more convenient than SUNLearn (mean=2.660), the electronic course management system used by Stellenbosch University. The researchers therefore suggest that although the students perceived that the Instagram account aided them with the module's administration, it should not replace the current electronic course management system but rather complement it. Table 7 displays the results of the one-sample t-test on the latent variable "Instagram used as an administrative tool".

Table 7:   One-sample t-test

Latent variable	Test Value = 3		
	t	df	p-value
Instagram used as an administrative tool.	0.040	158	0.968

The results indicate that the perception of the students of Instagram being used as an administrative tool was neutral (t=0.040, p>.05). The students indicated that they would prefer administration notifications to be shared on Instagram, for example their test dates, test venues and reminders of upcoming deadlines. The researchers suggest that Instagram might be a platform to reach students faster.

4.2.4   Overall perception of Instagram and social media within tertiary education

The last three questions of the questionnaire addressed the students' overall perception of the use of Instagram and SNSs within tertiary education. The one-sample t-test's results on the overall perception of students of Instagram and SNSs are displayed in Table 8.

Table 8:   One-sample t-test

Statements	N	Mean	Std. deviation	Std. error mean	p-value
Following the Funrek188 Instagram account enhanced my overall experience of the module.	157	3.300	1.089	0.087	0.001
I would prefer that academic activities are NOT conducted on social media platforms. (Reverse coded.)	150	3.887	1.190	0.097	0.000
The Funrek188 Instagram account was not worthwhile following. (Reverse coded.)	153	4.072	1.007	0.081	0.000

The first question, stated positively, indicated that the students perceived the overall experience of the Instagram account as significantly positive (mean = 3.3, p=0.001). The students' perception was significantly positive (p=0.000) regarding the Instagram account, with a mean of 4.072 (reverse coded). In this sample of 631 respondents, only 20 students indicated in the open-ended questions that Instagram should be kept out of academic modules. Therefore, following the positive response to the above questions that indicated that students had a positive experience, as well as the small amount of students that indicated that Instagram should not be used, the results therefore suggest that Instagram as an SNSs can be used in tertiary education. The one-sample t-test on the final latent variable, the overall perception of the use of Instagram in a blended learning environment, further confirmed this in the results displayed in Table 9.

Table 9:   One-sample t-test

Latent variable	Test Value = 3		
	t	df	p-value
Overall perception of the use of Instagram in a blended learning environment.	9.843	163	0.000

The results address the objective that Instagram can be used as a blended learning educational and administrative tool in tertiary education. And as a student acknowledged, the benefit of the Instagram account by directing to the following words:

> *"If I don't understand the visual image presented on the Instagram page, I discuss it with my friends to find out if I missed something in class."*

The results of the one-sample t-test on the overall perception indicated that the use of Instagram in a blended learning environment is significantly positive (t=9.843, p<0.05). This overall perception is based on the results of the students who followed the account. The limitations to this study were that no perceptions of the successful implementation of Instagram were available for students who did not follow the Instagram account. This was addressed by the question in the descriptive analysis that indicated that 69.73% of the students perceived that academic modules could use Instagram effectively within tertiary education.

5. CONCLUSION

The findings of this exploratory study suggest that Instagram can be used in various aspects of tertiary education. A positive perspective of the successful implementation as a blended learning educational and administrative tool was observed. As a participation tool, the students perceived that the Instagram account motivated them to think about the module outside of lectures. Instagram as a blended learning educational tool indicated successful use through visual images that enhanced learning to aid students in their understanding of difficult concepts. From the administrative perspective, the students indicated that Instagram should complement the current electronic module management system and should not replace it. Instagram could therefore provide lecturers with an additional line of communication to engage with students and to create a space of continuous, always-on learning. A very limited number of students held the negative perception towards Instagram indicating that Instagram should not be used in tertiary education in order to keep social and academic activities separate. The overall perception of the students of the use of Instagram and SNSs in tertiary education was significantly positive following the perceived successful implementation of Instagram in

a first-year accounting module. In this study, the driving force behind the Instagram account was the lecturers. The success of Instagram in tertiary education could be enhanced further by engaging students and lecturers as the driving force behind the Instagram account.

The Instagram functions applied in tertiary education could be expanded beyond the specific functions applied by the research team. This could lead to a higher perceived level of successful implementation. The focus functions implemented by the research team were on the use of visual images, the "ask me a question" function on Instagram, and the use of polls to identify difficult concepts. The Instagram account was limited to use by first-year students; further research studies could therefore be performed on the effect of Instagram on other undergraduate levels, as well as on a postgraduate level. Instagram is one of the current SNSs; however, due to the constant change in the technological milieu and the anticipated Fourth Industrial Revolution, future research can be conducted on new functions developed within Instagram as an SNS or other SNSs that are currently in the development phase.

The perceptions of the always-on students indicate their expectations of an Instant(gram) education approach implemented in tertiary education. To address the always-on approach, the onus is on lecturers to apply the functions offered by SNSs effectively, which include, but are not limited to, the use as a blended learning, administrative and participation tool.

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