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Gamification and Academic Performance in Al Jamea University (Nairobi Campus)

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ABSTRACT
This study was conducted to make learning more interesting, engaging and enjoyable in AljameaUniversity (Nairobi campus) in order to enhance academic performance, this objective was achieved by including gamification in the educational process. Therefore, in this study the researcher sought to investigate the relationship between gamification and academic performance in AljameaUniversity.The study was guided by the question which strategies can enhance engagement and motivation of students in Aljamea University (Nairobi campus)?The research was underpinned with the Yu Kai Chou's octalysis theory of gamification. A questionnaire consisting of both open and closed ended questions was used to collect data. The questionnaire was subjected to content validity and reliability through pilot testing. Data analysis was done through SPSS software and the finding were displayed in frequency tables. The findings showed that gamification strategies were used to boost motivation and foster the love of lifelong learning by making the learning process engaging, fun and interesting. Challenges that affected students' academic performance were boredom, teachers' unclear explanation of concepts, distractions and teacher centered strategies among others. Ways of mitigating the challenges include teachers thorough lesson preparation, use of videos to explain concepts, including mood changers, short breaks in between, interaction through question and answer and use a variety of learning activities. It can be concluded that there is a significant relationship between gamification and academic performance therefore gamification strategies should be part of the lesson plan to boost the motivation of learners and enhance academic performance.

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I. INTRODUCTION

Background of the study

Today's schools face major problems around student motivation and engagement. The lack of student motivation leads to poor academic performance and ultimately reducing the impact of education in reaching the goals and objectives of instruction. "Gamification, or the incorporation of game elements into non-game settings, provides an opportunity to help schools solve these difficult problems(Joey J. Lee, Jessica Hammer, 2011). "As opposed to using elaborate games requiring a large amount of design and development efforts, the "gamification" approach suggests using game thinking and game design elements to improve learners' engagement and motivation.

Gamification, defined by Deterding et al. (2011)as the use of game design elements in non-game contexts, is a fairly new and rapidly growing field. The concept of gamification is different from that of an educational or serious game. While the latter describes the design of full-fledged games for non-entertainment purposes, "gamified" applications merely employ elements of games. The term "gamification" is quite recent: according to (Deterding, Dixon, Khaled, &Nacke, 2011) its first documented use is in 2008 but it did not see widespread adoption before the second half of 2010. Nevertheless, the concept itself is not new. For example, badges and ranks have been long used in the military, in the early Soviet era game elements have been used by the Soviet Union leaders as a substitute for monetary incentives for performing at work, etc.

In recent years gamification has seen rapid adoption in business, marketing, corporate management, and wellness and ecology initiatives. This is driven by its potential to shape users' behavior in a desirable direction. Loyalty programs, such as the frequent-flyer programs, Foursquare and Nike+ are often given as examples of successful gamified mass market products. Stackoverflow.com provides another example, where users' reputation increases as they answer questions and receive votes for their answers. Online education sites, such as codeacademy.com and khanacademy.org use game elements to better engage users. The more courses

and lessons the users complete the more badges they earn. Sites like eBay and Fitocracy use game elements to keep people engaged and to encourage friendly competition between users.

Gamification is still rising in popularity. According to Gartner's Hype Cycle (Gartner, 2013), a research methodology that outlines an emerging technology's viability for commercial success, it is at the peak of the Hype Cycle in 2013 with an expectation for reaching the Productivity Plateau in 5 to 10 years. This position however reflects mainly its use in business contexts. The penetration of the gamification trend in educational settings seems to be still climbing up to the top as indicated by the amount and annual distribution of the reviewed works."(Darina Dicheva1, 2015)

Gamification is a strategy that employs game mechanics, techniques, and theory in areas that traditionally do not function like a game. The word can be traced back as early as 2004, but the concept goes back further. Although it is still a relatively new term, gamification has solid roots in organization motivation, customer loyalty, and business development. In fact, almost every one of us has experienced some form of gamification in our lives. For example, when's the last time you made a flight decision based on your frequent flyer status? Maybe you or your kids have taken some martial arts classes and leveled your way up with different colored belts. And the Boy Scouts have been motivating achievement through social recognition and rewards since 1910. But what is the base of gamification performance? Games it seems are perfectly tuned to give out rewards that engage the brain and keep us questing for more. Engagement occurs when the brain is rewarded, and that for something to be perceived as rewarding, it must evoke positive emotions in a person. Essentially, there are two components to the perception of something being rewarding: wanting and liking. Neuroscience researchers found that playing games releases high amounts of dopamine in the human brain. Dopamine is associated with increased learning, reinforcement of the current behavior, and attention. Furthermore, found that dopa-mine influences the incentive salience in general reward situations, i.e., the recipients want the experience more often(Kianoosh Karimi a, 2017). The aim of this paper is to studying Gamification from the viewpoint of motivational theory and how it can affect the academic performance of students of Al-Jamea University

Games and game-like elements have begun to invade the real world. Gamification, defined as the use of game mechanics, dynamics, and frameworks to promote desired behaviors, has found its way into domains like marketing, politics, health and fitness, with analysts predicting that it will become a multi-billion-dollar industry by 2015 (MacMillan, 2011). Some visionaries, like game designer Jesse Schell, envision a kind of gamepocalypse, a hypothetical future in which everything in daily life becomes gamified, from brushing one's teeth to exercise (Schell, 2010).

Thus far, gamification has most frequently been used as a clever way to promote a business or product. For instance, players can earn badges, discounts, and other rewards for visiting real-world shops and "checking-in" to the mobile phone application *FourSquare*. Games that are designed to promote positive lifestyle changes are starting to appear as well. *Chore Wars* and *EpicWin* encourage players to complete daily chores, while websites like *Google Powermeter* can encourage household reductions in energy consumption through the use of progress bars and collectible badges.

The potential of gamification, however, goes beyond promoting healthy lifestyles and marketing strategies. Gamers voluntarily invest countless hours in developing their problem-solving skills within the context of games (Gee, 2008). They recognize the value of extended practice, and develop personal qualities such as persistence, creativity, and resilience through extended play (McGonigal, 2011). Gamification attempts to harness the motivational power of games and apply it to real-world problems – such as, in our case, the motivational problems of schools. Motivation and engagement are major challenges for the American educational system (Bridgeland, Dilulio, & Morison, 2006). American schools also face a shockingly high dropout rate: approximately 1.2 million students fail to graduate from high school each year (All4Ed, 2010).

Intuition suggests that gamification may be able to motivate students to learn better and to care more about school. Making the case for gamification, however, requires more than intuition. We must clearly define what is meant by gamification, evaluate it for its benefits and drawbacks, explore current implementations and future possibilities, and better understand the theoretical rationale behind gamification. This will allow us to create effective interventions rather than guessing in the dark (Joey J. Lee, Jessica Hammer, 2011).

This paper will present the results of published studiesand will study theapplication of gamification in educational settings. It will work on the tendencies and emerging practices in this areaspecifically in Al- Jamea University. Empirical studies that will shed light on how gamification has affected student's academic performance in the short term will be conducted through research and surveys of students and teachers.

The gap that this paper will address is in applying gamification in the historically rich Al-Jamea University. Teaching and pedagogy methods need to be upgraded to suit the children of the 21st century, the advantage is that the Nairobi campus is already well equipped with modern technology and high end infrastructure for example smart boards in every classroom, access to world class ICT equipment and any material or resource required by the teacher efficiently delivered to his office at the click of a button by

submitting an online log. The paper will give practical solutions for enhancing the learning experience by encouraging the professors to make maximum use of gamification in their classrooms. It will address the challenges and give suggestions for including gamification in the curriculum and lesson plans. The research is unique because no such research has been conducted in Al-Jamea University for the University. It will be an applied research where students and teachers will contribute by being part of the solution to the rising problem of demotivation and disengagement resulting in poor academic performance.

This paper differs from other studies on the subject of gamification as it will not only discuss the idea but specifically try to get solutions to the current reality of academic performance and lack of inspiration. It will go from general to specific in terms of understanding and introducing the concept of gamification in the University.

Gamification is the use of game elements and design in non- gaming situations. In the educational context the word is used to apply beneficial elements from a video, card or board game in a classroom lesson to make it more fun, engaging and interactive. It differs from game-based learning that teaches students by playing a game. This concept can help empower and motivate students towards high performance in academia. The possibilities and ideas are endless, however, using gamification outside the gaming industry can lead the 21st century children to play games not for mere entertainment but to achieve a larger purpose while keeping them interested and motivated. Some of the elements and benefits of including gamification in education so that the learning of a student does not have to be so serious and boring, the learning journey of a student can be fun and interesting. Including a simple word from the gaming context like 'challenge' or 'level' can drastically bring a positive change to the attitude of students towards a serious task and reap multiple benefits.

Theoretical Framework

It is the 'blueprint' or guide for a research (Grant &Osanloo, 2014). It is a framework based on an existing theory in a field of inquiry that is related and/or reflects the hypothesis of a study. It is a blueprint that is often 'borrowed' by the researcher to build his/her own house or research inquiry. It serves as the foundation upon which a research is constructed. Sinclair (2007) as well as Fulton and Krainovich-Miller (2010) compare the role of the theoretical framework to that of a map or travel plan. Thus, when travelling to a particular location, the map guides your path. Likewise, the theoretical framework guides the researcher so that s/he would not deviate from the confines of the accepted theories to make his/her final contribution scholarly and academic

This research on gamification and academic performance in Al-Jamea University was based on the octalysis framework of gamification theory by Yu Kai Chou in 2003.

His theory is based on the eight core drives of gamification that include:

1. Epic Meaning & Calling
2. Development & Accomplishment
3. Empowerment of Creativity & Feedback
4. Ownership and possession
5. Social influence and relatedness
6. Scarcity and impatience
7. Unpredictability and curiosity
8. Loss and avoidance

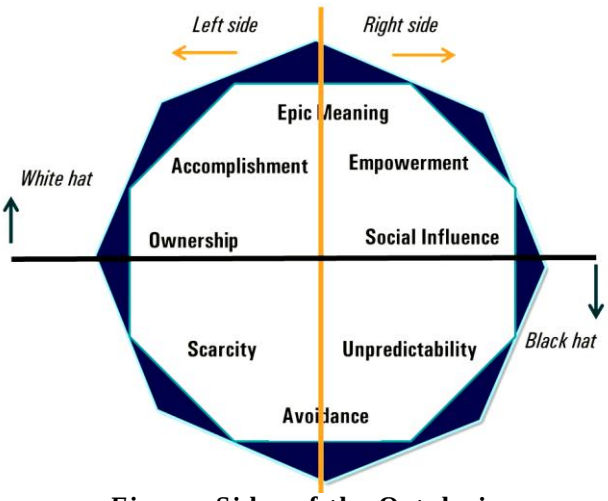


***Figure*: Sides of the Octalysis**

The left side of the Octalysis chart is commonly associated with logic, analytical thought, and ownership. People are motivated by extrinsic elements such as rewards, money, goals, milestones, points, badges, recognition. However, once people obtain the goal or get used to it, they no longer take the desired behavior.The right side of the Octalysis chart relies on intrinsic motivation: creativity, self-expression and social dynamics. You don't need a goal or reward to use your creativity, hangout with friends, or to feel the suspense of unpredictability. Balancing extrinsic and intrinsic core drives is an important task. White Hat core drives make us feel powerful, fulfilled, and satisfied. On the Octalysis octagon they are represented on the top. It involves motivations that engage the user on expressing creativity and achievement through mastering of skills, resulting in a higher sense of accomplishments, meaning, and empowerment.Black Hat core drives are located at the bottom of the Octalysis chart. Black Hat core drives make us feel obsessed, anxious and addicted. If you are always doing something because you don't know what will happen next, you are constantly in fear of losing something, or because you're struggling to attain things you can't have (Chou Y.-K. , 2019). The diagram illustrates the theory with clarity and detail.

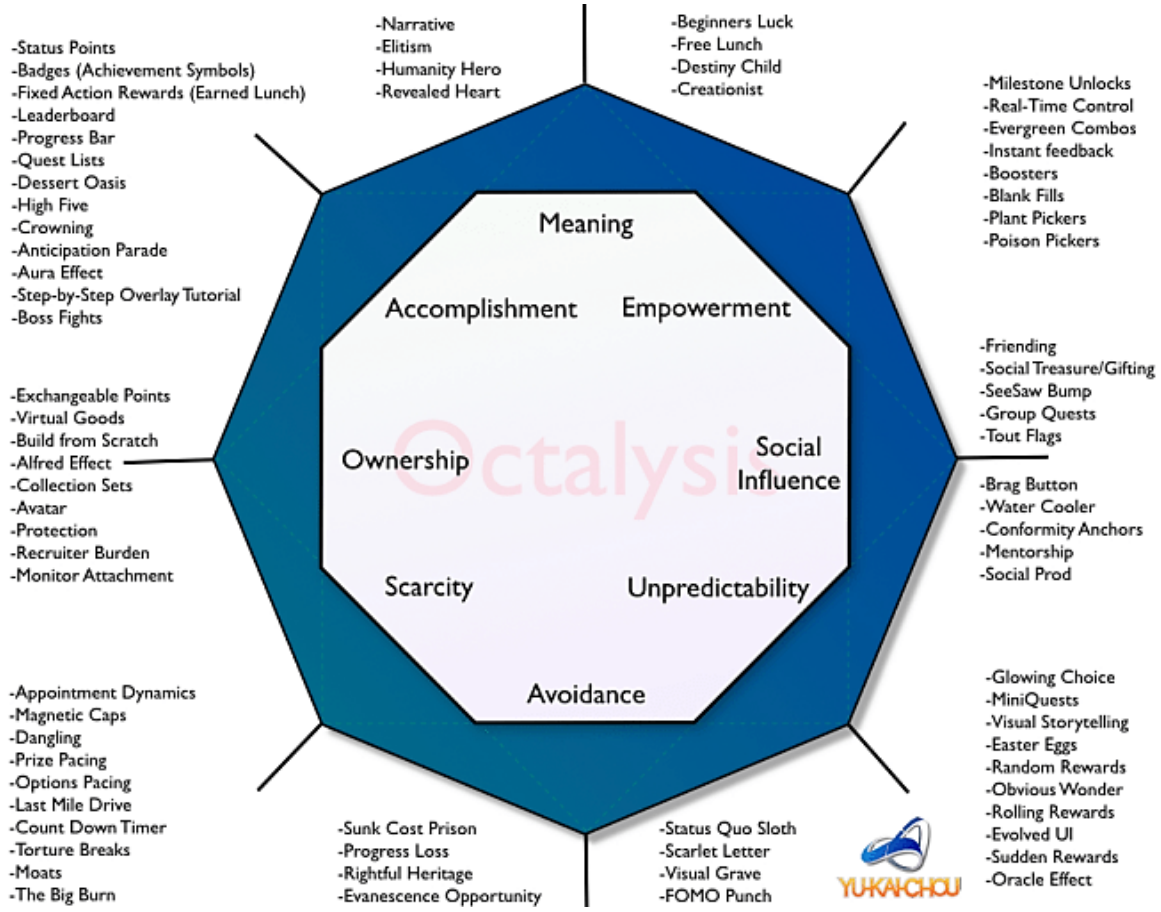


***Figure*: The Octalysis Framework**

Source: (Chou Y.-K. , 2019)

Application of theOctalysis theory to the study

This paper tried to include the octalysis theory of gamification to the curriculum and classrooms of Al-Jamea University as part of a detailed solution. It was applied in a subtle way where students feel they were enjoying the process while learning enthusiastically to reach their desired destination in academic performance. The vision was not to merely transfer knowledge but to transform lives, and this was done by taking elements from the octalysis theory for better engaging, involving and exciting the learner in this magnificent journey of learning.

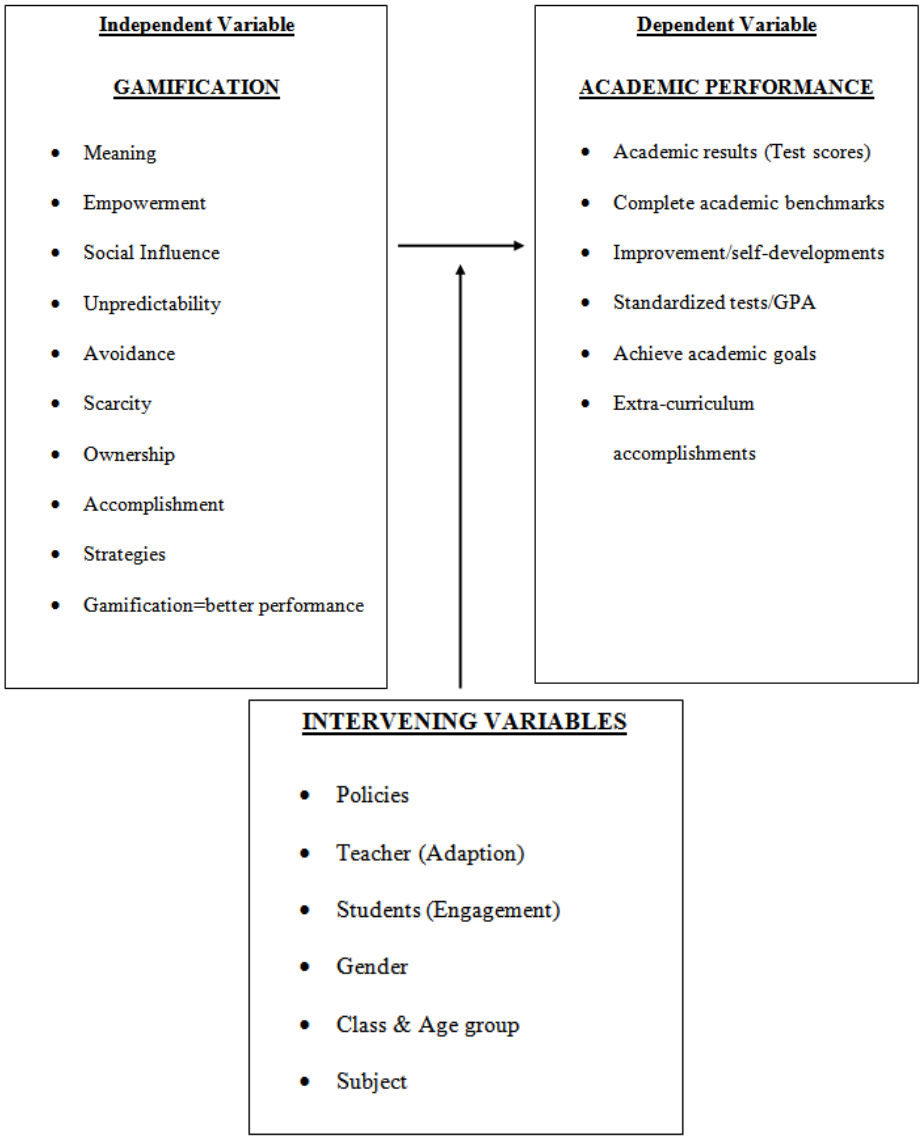


Figure: Conceptual Framework

Source: (LuvaiMansoorTayabali, 2020).

A conceptual framework gives life to a research paper. It gives the researcher clarity and perspective, while guiding him in the correct direction towards filing the gap and solving the problem. The conceptual framework for research on gamification and academic performance in Al-Jamea University addressed the independent variable which was the influencer (gamification) and the dependent variable which wasbeing influenced (academic performance) of the student and the intervening variable that included some factors were shown in the chart.

Furthermore, a number of factors contribute to the academic performance of students. Therefore, it should be noted that a student's high or low performance is not limited to any one factor but rather a combination of internal and external determinates. The purpose of listing down the factors in the first chapter is so that the reader does not assume the cause of a student's failure or low performance without considering multiple aspects and thorough analysis of core drive. However, this study will address a few aspects in order to discuss the importance of gamification in educational settings. Some of these factors include Socio-economic status, financial burdens, home environment and family issues, time management, work overload and burnout, attitude towards learning, distractions/social media, motivation of students and teachers, instructional design and curriculum, hard-work and focus on studies, negligence and incapacity/inability, effective teaching and learning style, study habit, boredom and lack of interest.

II. REVIEW OF RELATED LITERATURE

Introduction

The intention of this chapter is to give an insight on all academic works related to the study. The research area is interesting and important as it deals with real problems that the education systems face in the 21st century. The concept of gamification in education is a new concept and a lot of research has been done in the last five to ten years to solve problematic issues that are faced by students and teachers of the modern era.

Strategies to Enhance Engagement and Motivation of students

A study about "Gamification in Education: What, How, Why bother?" was done by Joey J. Lee, Teachers College Columbia University, NY and Jessica Hammer, Teachers College Columbia University, NY in January 2011.

The study was about today's schools face major problems around student motivation and engagement. Gamification, or the incorporation of game elements into non-game settings, provides an opportunity to help schools solve difficult problems and enhance academic performance. However, if gamification is to be of use to schools, we must better understand what gamification is, how it functions, and why it might be useful. This study addresses all three questions – what, how, and why bother? – while exploring both the potential benefits and pitfalls of gamification(Joey J. Lee, Jessica Hammer, 2011).

Their findings showed that Gamification can motivate students to engage in the classroom, give teachers better tools to guide and reward students, and get students to bring their full selves to the pursuit of learning. It can show them the ways that education can be a joyful experience, and the blurring of boundaries between informal and formal learning can inspire students to learn in life wide, lifelong, and life deep ways. In short, some gamification projects will succeed, and others will fail. Gamification is not a universal panacea. If we are to improve the odds of gamification providing value to schools, we must carefully design gamification projects that address the real challenges of schools, that focus on the areas where gamification can provide the maximum value, that are grounded in existing research, and that address the potential dangers of gamification for both games and schools(Joey J. Lee, Jessica Hammer, 2011).

The study has addressed theteachers and students of Aljamea University by taking their valuable feedback and determine if they are willing to adopt gamification in their daily teaching and learnings and what strategies they feel will bring out the best outcomes. The inclination of learners to more inspiring strategies can result in better academic performances.

The article of "Gamification as transformative assessment in higher education" by Erna Oliver from the Department of Christian Spirituality, Church History and Missiology, University of South Africa, South Africa, conducted a research in 2017 that discussed "gamification (and all its other designations) and its applications in general; thereafter, the focus has been on the application of gamification within the environment of education, and more specifically with an emphasis on assessment. The burning question for South Africa (and other African countries) is whether gamification can enhance a module or course on the level of higher education so much that an educational institution cannot do without it anymore, knowing that we are working with students belonging to the 'Digital Wisdom generation'(Oliver, 2017).

In 2014 and 2015, Christopher Pappas did some very useful research on gamification, especially within the eLearning environment. In 2014, he explored how the brain responds to gamification in eLearning, and added the most notable benefits of using gamification in eLearning. For him, gamification makes studies more joyful and more effective (Pappas 2014a). The reason is that 'there is actually an exact science behind why gamification in eLearning is so successful.When we participate in activities that stimulate our bodies or minds, such as exercising, our body releases a hormone known as endorphins. The same effect can be achieved by playing eLearning games that challenge learners or give them the chance to achieve a particular reward, even if that reward is something as simple as moving onto the next level. When these endorphins are released, the learners not only have more fun during the eLearning process, but they actually retain more information. Endorphins also bring on feelings of calm and well-being. It's also important to note that endorphins are neurotransmitters, which means that they have the ability to send signals between neurons. (Pappas 2014a)

The fact that a great contingent of the world, especially students, plays games on a daily basis makes this phenomenon worthy of research (Pappas 2014a). According to Piaget (1962; 1975) and Vygotsky (1967), play is a crucial component of cognitive development, stretching from birth through adulthood. Added to this, Pappas (2014b: Introduction) points out that, 'based on extended research conducted by numerous educational institutions, what makes games effective for learning is the learners' level of activity, motivation, interactivity and engagement'. Pappas (2014a) has listed the five top benefits of gamification in eLearning:

a. Increases learner engagement
b. Makes eLearning fun and interactive
c. Improves knowledge absorption and retention
d. Gives learners the opportunity to see real world applications

e. Enhances the overall learning experience for all age groups

A survey conducted by TalentLMS on e-learners to determine whether motivation is boosted by gamification showed that:

i. 89% of those surveyed stated that a point system would boost their engagement.
ii. 82% are in favor of multiple difficulty levels and explorable content.
iii. 62% stated that they would be motivated to learn if leader boards were involved and they had the opportunity to compete with other colleagues.(Oliver, 2017)

III. DESIGN AND METHODOLOGY

Research Design

Research design can be considered as the structure of research it is the "Glue" that holds all of the elements in a research project together, in short it is a plan of the proposed research work (Akhtar, 2016). It provides insights about "how" to conduct research using a particular methodology.

'Mixed methods research is a methodology for conducting research that involves collecting, analyzing and integrating quantitative and qualitative research. Mixed method in research is used when this integration provides a better understanding of the research problem. By mixing both quantitative and qualitative research method, the researcher gains in breadth and depth of understanding and corroboration, while offsetting the weaknesses inherent to using each approach by itself' (Resource centre, 2016).

The researcherused mixed research method which is combination of both qualitative and quantitative in order to test the effectiveness of gamification on student's motivation and academic performances. This design is favored amongst the others as the survey will give the study a feedback on the reality and open-ended questions will give the perception of students and relevant suggestions on how to improve academic performance through student motivation. The researcherused descriptive analysis to analyze the data and give solutions to the existing challenges of poor academic motivation in students of higher levels in the University. Mixed method design has been chosen over other research designs because the objective of this research is to determine a relationship between the academic performance and gamification and measure what students and teachers feel about the effectiveness of gamification on academic performance. This study was conducted in Aljamea University (Nairobi Campus).

Table 1
Total number of level 8-11 students in Aljamea University (Nairobi Campus)

LEVEL	MALE	FEMALE	TOTAL
8	34	0	34
9	17	6	23
10	8	4	12
11	4	0	4
TOTAL	63	10	73

Table 2
Total number of Teachers in Aljamea University (Nairobi Campus)

TEACHERS	MALE	FEMALE	TOTAL
Level 8-11	46	3	49

Sample size and Sampling Procedures

This research used sample size according to theKrejcie and Morgan (1970) for a given population. According to Krejcie and Morgan (1970) table for determining the sample for a given population, a population size of 122 will be presented by a sample size of 92. Therefore, the researcher used proportional sample size for each group.

Table
Research sample size

CATEGORY	POPULATION	SAMPLE SIZE
Male Students	63	47
Female Students	10	8
Male Teachers	46	35
Female Teachers	3	2
Total	122	92

Description of data collection/research instruments

The study on gamification and academic performance used the design which is a combination of qualitative and quantitative, therefore the research study will give questionnaires that will include both survey questions according to the Likert scale and open-ended questions in an attempt to get answer to the research questions.A different questionnaire was given to students and teachers as both face different challenges and have different experiences in the teaching and learning process.

IV. DATA PRESENTATION, DISCUSSION AND INTERPRETATION OF THE FINDINGS

Introduction

This chapter deals with the presentation, examinations and discussions of the results collected from the sample of the study. The data which was collected by google forms and physical questionnaires was coded, organized and analyzed using SPSS with the aim of establishing the relationship of gamification on academic performances of the students.

Strategies That Can Enhance Engagement and Motivation in Students

This research sought to gather strategies for enhancing engagement and motivation in students. The questionnaire gathered data through specific questions to find out whether the application of gamification in educational context is expected to be effective in order to enhance academic performance. The study showed that only 4% disagreed that every student is unique and faces different challenges that effect his academic performance while 91% agreed the uniqueness of every student's capacity. However, 3% of the respondents remained neutral indicating that they did not have a stand on others. The results show that the majority of students agree that every student is unique with special talents andcapacity.

Similarly, 53% and 44% strongly agreed and agreed respectively that identifying the factors of low academic performance and taking relevant steps can inspire the student to excel in his studies, while 0% respondent disagreed on this fact while 1.6% remained neutral. Therefore, this is evidence on the statement that identifying factors and taking relevant steps is the key to tapping the potential of the student.

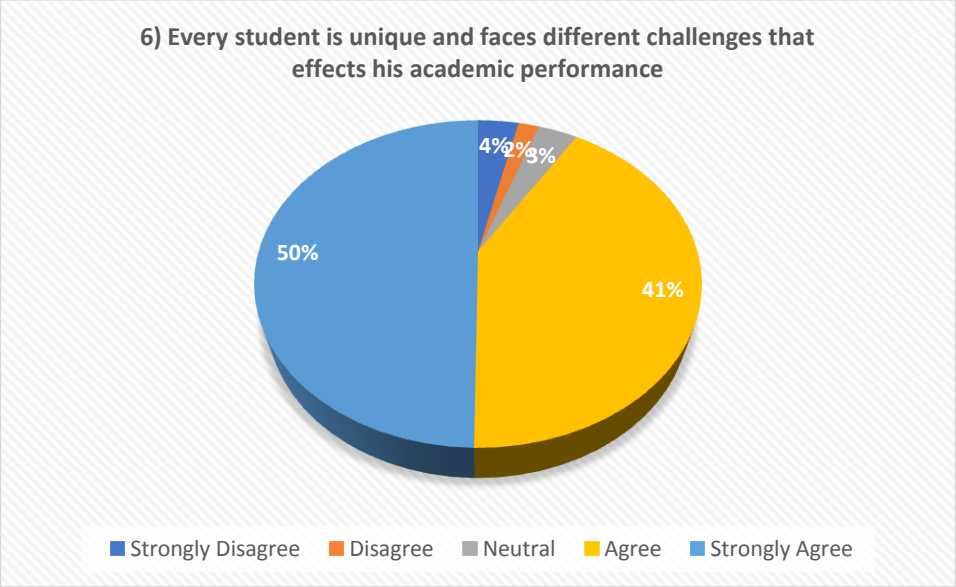


***Figure*: Every student is unique**

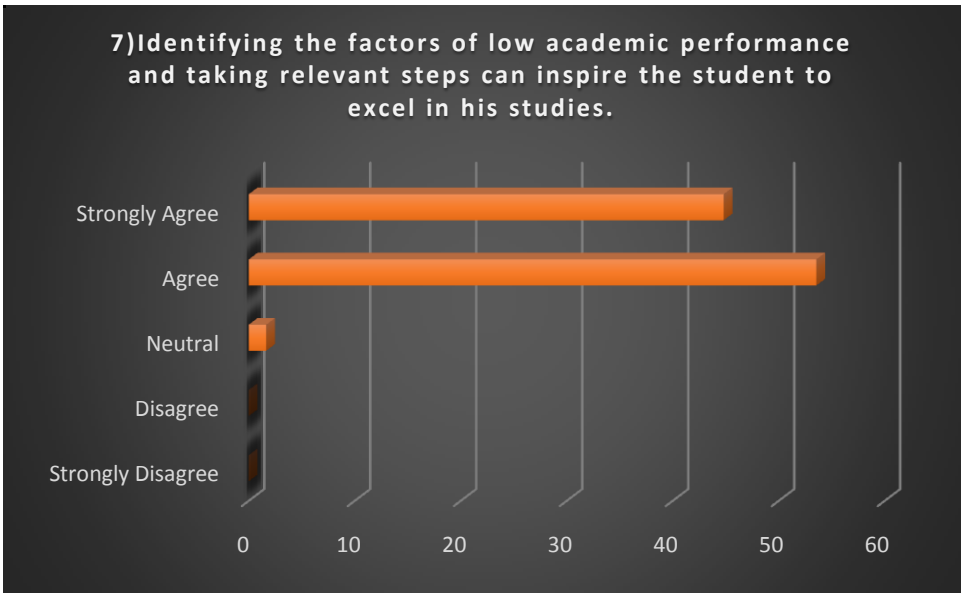


***Figure*: Identify factors of low academic performance**

One of the factors that the researcher was curious about was if a mood changer had the ability to increase the enthusiasm of students. As per the results 90% agreed that mood changers played a major role in increasing the enthusiasm while only 1% disagreed and 7% remained neutral. The finding shows that the teacher using a mood changer has an impact on the enthusiasm of students.

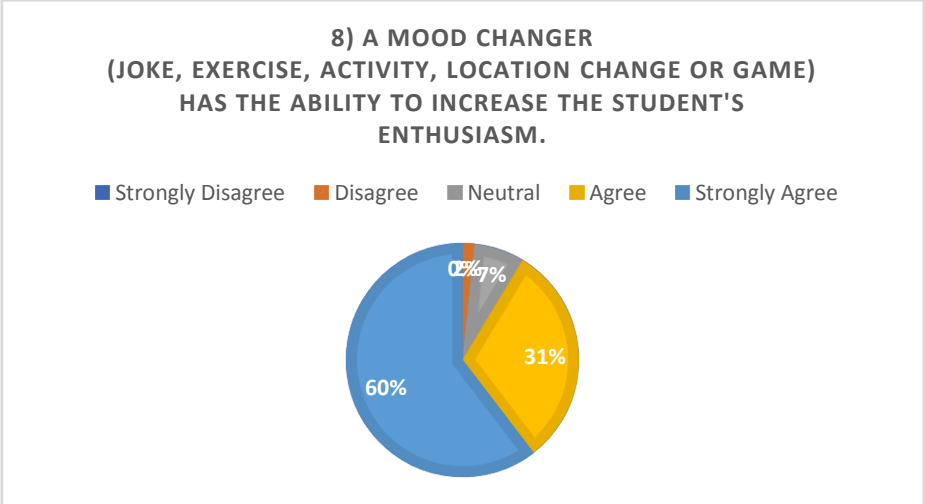


***Figure*: Mood changer can increase enthusiasm**

A mood changer can not only increase the enthusiasm but it is also expected by the students and they look forward to it when in a bad mood. 38% strongly agreed and 51% agreed that it is expected while 0% disagreed with the fact. Nevertheless, 10% were neutral indicating that they were unsure of the student psychology. Therefore, it is proved that students at all times require a mood changer to lift their mood and prepare them for better academic performance.

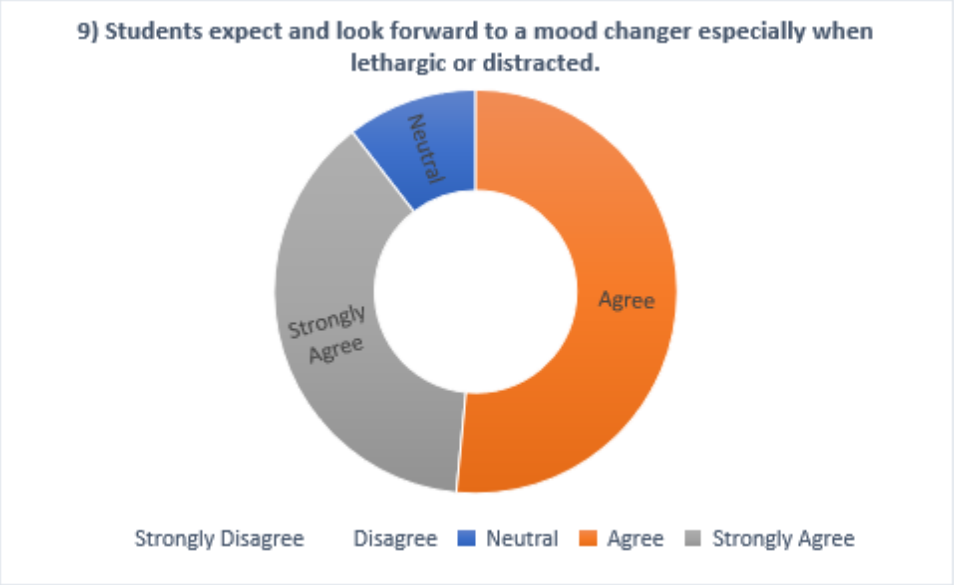


***Figure*: Students expect mood changers when lethargic**

Lastly, on the objective of seeking strategies to enhance motivation in students, respondents were asked if enhancing motivation and creating an interest in class should be part of the lesson plan. 46% strongly agreed and 36% agreed that lesson plans should contain this element while 13% remained neutral. However, a minority of 2% disagreed on the fact that every lesson should include motivation. This is evidence that lesson plans should always cater for strategies to enhance motivation and spark a light of interest in students.

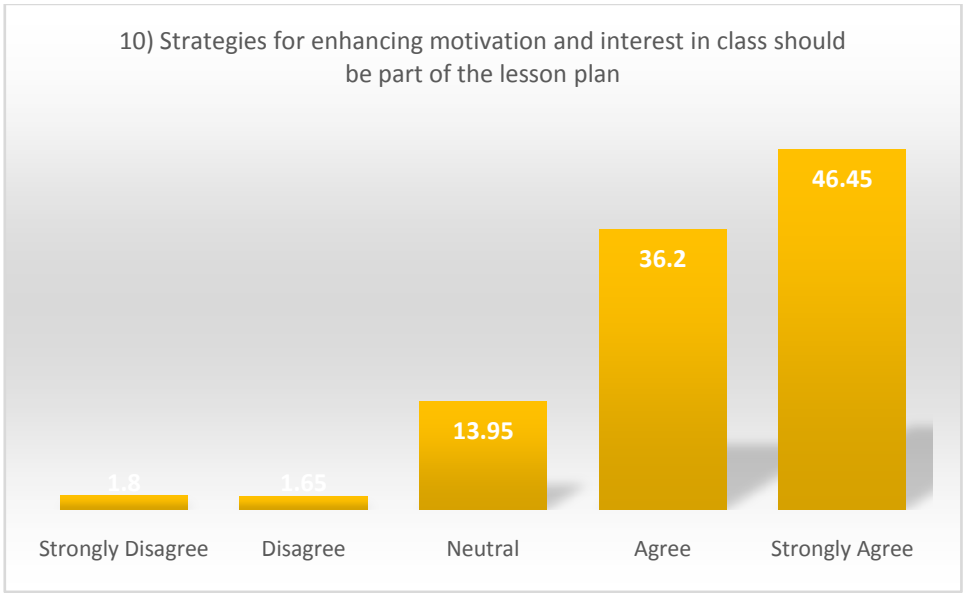


***Figure*: Strategies to include in lesson plan**

Open ended questions and interviews collected themes that indicated useful strategies that can enhance motivation and increase the interest of the learner. Students responded that strategies they have experienced in their learning process that has enhanced their academic performances include making mind-maps, cracking jokes, including an activity or video related to the concept, exercise, games, asking questions, short breaks in between, munching on refreshments, anecdotes, location change, linking to real world and making extra effort for research.

Likewise, some of the suggestions by students on teaching design that can be implemented in order to boost academic performance include increase interaction, google/smart classroom, professionalism, being well prepared for class, presentations, use smartboard, teacher should move in the classroom, visualization, recap of previous class and discussions.

Some of the responses from teachers suggested strategies that can be used are to pause every 10-15 minutes and talk about something else - even a joke but related to the subject, change of location, exercises, jokes, videos, worksheets, examples from their lives, using multimedia, involve them to be part of it by making them active learners, some activity, make the concept look simple, use multiple intelligence, change planning techniques, freedom to ask question, make the learner your friend, interactions with students, be lively, games related to the topic, involve the students and learner centered approach to name a few strategies.

V. SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Gamification is the use of game elements and design in non- gaming situations. According to the data analysis and interpretation of the findings, it was concluded that gamification has a significant effect on academic performance and introducing gamification strategies can help in overcoming educational challenges. Therefore, it can be concluded that gamification should be introduced in Aljamea university. Displayed are the results of the study according to the objectives and research questions.

Strategies that can enhance engagement and motivation of students in Aljamea University

Respondents were questioned on the uniqueness of each student and if it was the teacher's responsibility to take relevant steps in to change the move and spark motivation and interest in learners through effective gamification strategies. 90% of the respondents agreed that gamification strategies could be used to tap the potential of students and a small change in approach could lead to better academic performance. However, 2% of the respondents disagreed while 7% remained neutral in their opinion. The finding show that gamification strategies have a significant effect on the academic performance of students and majority of student and teacher respondents agreed to the idea. Therefore, gamification of the lessons can be used as a stepping stone towards achieving our goal to engage and motivate learners towards better learning and higher understanding.

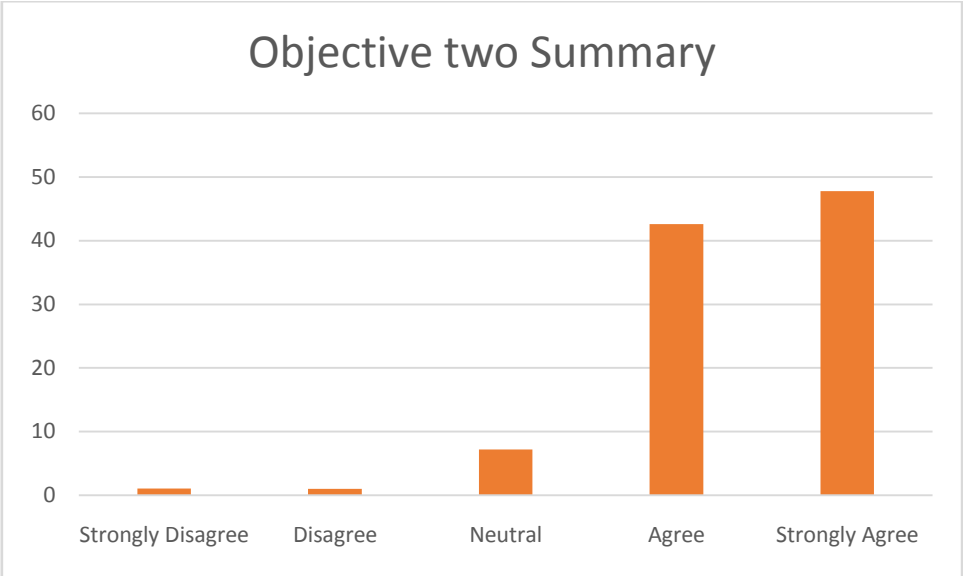


***Figure*: Summary on strategies to enhance academic performance**

VI. CONCLUSION

The aim of this study was to establish the effect of gamification on academic performance and determine if there was a relationship between the two variables. It inquired on whether games were fun and gamified lessons were more fun, interesting and enjoyable to learn and teach. Therefore, the data shows there is a significant relationship between gamification and academic performance as students who are actively engaged and involved in learning through gamification perform academically better Aljamea university. The objectives of the study were achieved as it gave invaluable suggestions on how to overcome the challenges in academic performances of the students, beneficial strategies for enhancing engagement and motivation in students of Aljamea university were discovered and practical solutions for applying gamification were shared in the course of the study.

VII. RECOMMENDATIONS

The study recommends to include gamification in Aljamea university to improve academic performance of the students. Recommendations that were drawn based on the study findings were as follows.

a) Gamification should be part of the lesson plan. Lessons should not be based only on the text of what is being but also on how it will be taught. A perfect plan is half execution; therefore, teachers should ensure that information should not just be transferred but rather it should be the key to transforming the life of students. Lesson plan should clearly state what game elements will be used to explain the information and how it will spark interest, engagement and enthusiasm in the learners.

b) There must be innovation and creativity in teachers. Every student is unique and a variety of strategies must be applied to motivate students to learn. A teacher should improvise a change in activity or teacher method to change the attitude of learner and boost motivation.

c) It should be ensured that students do not get bored or distracted and engage in activities that would lower their potential in learning. Teachers must always have a plan to mitigate boredom and distraction in the classroom. Academic performance is directly related to students being fully engaged and interested in the learning process.

d) Student centric methods of teaching should be implemented where the focus is on the learner and his needs to enjoy the lesson and make it relate to him. Likewise, extrinsic and intrinsic incentives can be given to students to make them have fun and create a sense of challenge and competition, eventually encouraging them to excel in academic performances.

Suggestions for further study

The topic of this study was gamification and academic performance in Aljamea university and focused on how we can implement gamification in the learning journey of a student in Aljamea.

To further elaborate on the topic further studies can be conducted in other universities, schools and educational institutions in an attempt to:

✓ Foster the love for lifelong learning through shifting the perspective of learning from mundane and boring to interesting and fun. Learning must not be for the mere objective of passing examinations or completing compulsory assignments.

✓ Make the remembering, understanding, explaining, analyzing, applying and creating of concepts effective through gamification.

✓ Make learning interesting, engaging and fun for teachers and students alike and overcome boredom, disconnection and dislike for education.

REFERENCES

[1]. Adom, D. &.--. (2018). THEORETICAL AND CONCEPTUAL FRAMEWORK: MANDATORY INGREDIENTS OF A QUALITY RESEARCH. International Journal of Scientific Research. 7. 438-441.

[2]. Akhtar, M. I. (2016). Research design. Research in Social Science: Interdisciplinary PerspectivesEdition: 1stChapter: Research Design.

[3]. Akinsoulu, A. O. (2017). Teachers and Students' Academic performance in Nigerain Secondary schools.

[4]. Alsawaier, R. S. (2017). The effect of gamification on motivation and engagement.

[5]. Alsawaier, R. S. (2018). emerald insight. Retrieved from International Journal of Information and Learning Technology: https://www.emerald.com/insight/content/doi/10.1108/IJILT-02-2017-0009/full/html#sec004

[6]. Butgereit, L. (2013). An Experiment in Using Gamification in an Information Technology Distance Classroom.

[7]. Chou, Y. K. (n.d.). Octalysis group. Retrieved from Octalysis framework of gamification: https://yukaichou.com/gamification-examples/octalysis-complete-gamification-framework/

[8]. Darina Dicheva1, C. D. (2015). Gamification in Education: A Systematic Mapping Study, 1-2.

[9]. Institution of education sciences. (2017). Retrieved from ed gov: https://eric.ed.gov/?id=EJ1140619

[10]. Joey J. Lee, Jessica Hammer. (2011). Gamification in Education: What, How, Why Bother?

[11]. Kianoosh Karimi a, J. N. (2017). Italian Journal of Science & Engineering. Gamification from the Viewpoint of Motivational Theory.

[12]. Kleij, M. v. (n.d.). Overcoming knowledge gaps regarding gamification implementation. 2014.

[13]. octalysis group . (n.d.). Retrieved from : https://octalysisgroup.com/solutions/#education

[14]. Oliver, E. (2017). Gamification as transformative assessment in higher education. HTS Theological Studies.

[15]. Question pro. (2019). Retrieved from https://www.questionpro.com/blog/research-design/

[16]. reliability and validity. (n.d.). Retrieved from statistic solutions: https://www.statisticssolutions.com/reliability-and-validity/

[17]. Resource centre. (2016). Retrieved from Foodrisc: http://resourcecentre.foodrisc.org/mixed-methods-research_185.html#:~:targetText=Mixed%20methods%20research%20is%20a,focus%20groups%2C%20interviews)%20research.
[18]. Udemy. (n.d.). Retrieved from Udemy : https://www.udemy.com/course/gamification-behavioral-design-the-octalysis-framework/
[19]. Violet Murwa, t. I. (2014). Role of Gamification in Education. Contemporary Engineering Sciences.
[20]. (2019, July). Retrieved from Wikipedia: https://en.wikipedia.org/wiki/Octalysis

Appendices III: Tables

Total number of students in Aljamea University (Nairobi Campus)

LEVEL	MALE	FEMALE	TOTAL
1	61	63	124
2	73	66	139
3	62	59	121
4	44	63	107
5	48	53	101
6	40	36	76
7	24	23	47
8	34	0	34
9	17	6	23
10	8	4	12
11	4	0	4
TOTAL	415	373	788

Total number of Teachers in Aljamea University (Nairobi Campus)

TEACHERS	MALE	FEMALE	TOTAL	SUBJECTS	BOOKS
Level 1-7	68	24	92	11	45
Level 8-11	29	3	32	7	42
Total 1-11	68	24	92	11	67

ALL 4 CAMPUS STUDENTS (MALE)

LEVEL	SURAT	MAROL	KARACHI	NAIROBI	TOTAL
1	58	32	37	61	188
2	68	32	16	74	190
3	73	35	25	63	196
4	84	33	32	44	193
5	57	30	26	48	161
6	41	33	38	24	108
7	38	28	18	24	108
8	30	12	16	34	92
9	23	11	14	17	65
10	35	0	11	8	54
11	36	0	11	4	51
TOTAL	543	246	244	420	1453

ALL 4 CAMPUS (FEMALE)

LEVEL	SURAT	MAROL	KARACHI	NAIROBI	TOTAL
1	55	33	41	63	192
2	48	33	23	67	171
3	48	38	33	58	177
4	47	40	40	63	190
5	59	34	38	54	185
6	29	27	14	36	106
7	41	24	24	24	113
8	0	0	0	0	0
9	7	0	9	6	22
10	8	0	8	4	20
11	10	0	5	0	15
TOTAL	352	229	235	375	1191

MALE AND FEMALE TOTAL

CAMPUS	SURAT	MAROL	KARACHI	NAIROBI	TOTAL
ALL LEVEL	895	475	479	795	2644

FEMALE D-ZAHABIYAH (SPECIAL ONLINE PROGRAM-FEMALE)

LEVEL	SURAT	MAROL	KARACHI	NAIROBI	TOTAL
8	36	9	26	20	91
9	24	10	11	14	59
10	15	0	3	1	19
11	8	0	1	2	11
TOTAL	83	19	41	37	180

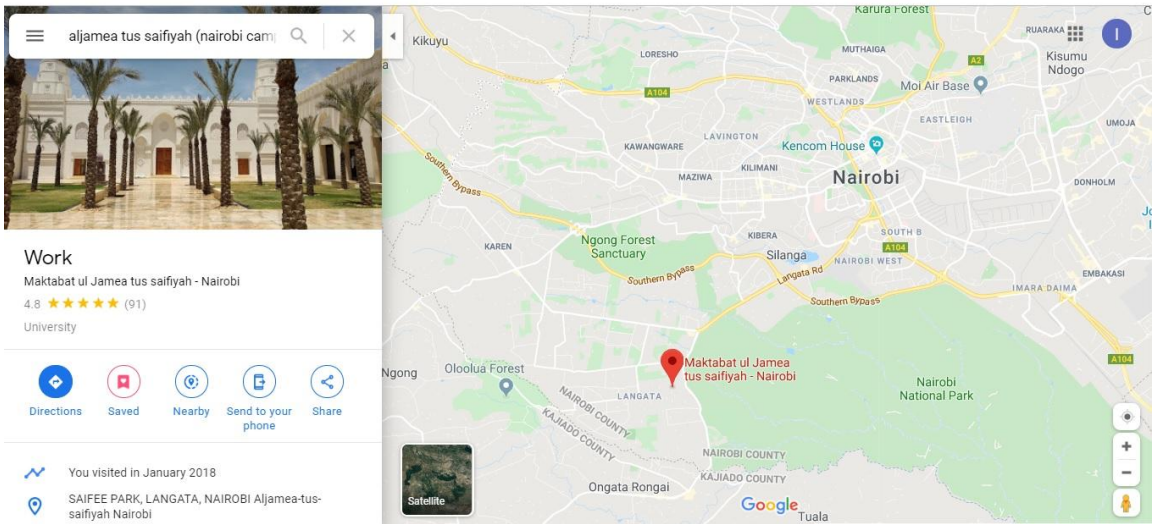
Krejcie and Morgan (1970) sample size

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Appendices: Maps
Location of the study



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