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# Using Web 3.0 Apps to Stimulate University Learners' Participation: EFL at SMBUF as a Case Study

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## Abstract

The aim of this quasi-experimental study is to analyze the importance of using Web 3.0 inside classroom to stimulate university students' motivation, which contributes to active participation and sustain learning retention. The project thus dramatizes the extent to which Web 3.0 Apps pave the way for students to remain involved asking, responding, and interacting with their instructors and peers. This small-scale study targeted 90 undergraduate students of English Department at School of Humanities, Sidi Mohamed Ben Abdellah University in Fes. Sixty students accepted to take part in the study, yet 39 who filled in the questionnaires exhaustively. The informants were taught with the help of some Web 3.0 Apps such as Kahoot, Seesaw, Webinar, and BookWidgets and the project lasted five weeks. Analyses of the questionnaires' responses prior to and after the exposure to Web 3.0, which were administered to a convenient sampling, reveals Web 3.0 significantly contributes to students' sustainable active involvement.

## Keywords:

Web 3.0 Apps, Learning participation, Intrinsic & Extrinsic Motivation, & Learning Retention

## 1 INTRODUCTION

The body of literature displays that most scholars agree on the idea that participation develops when students are highly motivated and given more chance to express their learning needs. This cannot be attained without a mutual collaboration of both the instructor and the learner. Indeed, it is beforehand that scholars agree on the idea that learners' weak performance and shortage of academic participation has been an issue in a number of universities. This may occur due to a low motivation and lack of self-assurance, which allure scholars to recommend the investigation of motivation's role in the enhancement of learning participation retention (Deci, et al 1991; Dweck, et al 2004; Gardner, 1985; Pintrich & Zusho, 2007; Vallerand, 2007).

To begin with, in-class participation implies that learners take part in almost every lesson activity by not only responding to instructor's inquiries, but also through asking relevant questions. Learners are also expected to engage in classroom discussions actively and regularly (Brookfield, 1999; Hollander, 2002). However, the instructor plays a crucial role in motivating learners to participate and have a say.

To illustrate, scholars have referred to "motivation" as a strong predictor to enlist learners' participation in the sense that it provide them with positive drive (Dörnyei, 1998). Besides, the concept of motivation is considered as a "process whereby goal-directed activity is instigated and sustained" (Pintrich & Schunk, 1996, p. 4). It is also "a process whereby a certain amount of instigation force arises, initiates action, and persists as long as no other force comes into play to weaken it and thereby terminate action, or until the planned outcome has been reached" (p. 118). Before, motivation was meant to be a psychological push forward within the inside and the outside of the self (Deci & Ryan, 1985). This is referred to as intrinsic and extrinsic motivation.

Intrinsic motivation is to engage in an activity for its sake (Pintrich & Schunk, 2002) and it was first coined by

Harlow in 1950 (Deci & Ryan, 1985). The latter describe the intrinsic motivation as a source of energy to the individual. Later, Levesque (2012) and Omari, Moubtassime, & Ridouani, (2018) claim that intrinsic motivation is a predictor which induces the learner to participate in any learning activity. Within this framework, intrinsic motivation is referred to as "doing something because it is inherently interesting or enjoyable" (Ryan & Deci, 2000, p. 55). This implies that the more joyful the learner is, the better s/he perform any learning task.

Whilst, the extrinsic motivation seems like an opponent of intrinsic motivation (Deci and Ryan, 1985) in such a way that reflect the outside factors which contribute to changing the individual's behavior in performing a task or another. The outside factors stand for any longing to achieve an ultimate objective (Sansone & Smith, 2000). This involves recognition or financial gain (Levesque, 2012), rewards or punishments (Lin, Mckeachie, & Kim, 2003), and earning or avoiding something out of the self (Walker, Greene, & Mansell, 2006). Furthermore, extrinsic motivation as doing something because it will drive the person to a separable outcome or consequence (Ryan & Deci, 2000, and Hidi, 2000). This implies that intrinsic motivation and extrinsic motivation first diverge in the sense that the former is a start saliva while the latter is an end; second, they converge in the sense that they both incentivize learners to participate.

In short, when participation is seen as "an approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive and contextual processes in construction and confirming meaningful and worthwhile learning outcomes" (Garrison, 1997, p. 19). Motivation is believed to be as a vital constituent for effective and successful learner's participation in academic activities (Thompson & Erdil-Moody, 2016). Thus, the willingness for a learner to remain an active attendee and participate more, s/he has to be intrinsically and extrinsically motivated (ibid).

On the other hand, Web 3.0 stands for the semantic web or the web of data (Cho, 2008). While Web 1.0 was to

connect content, and Web 2.0 has been developed to connect people socially, Web 3.0 is now to connect collective intelligence (Wheeler, 2012). Thus, Web 3.0 is the transformed version of Web 2.0 with technologies and functionalities such as intelligent collaborative filtering, cloud computing, big data, linked data, openness, and smart mobility. Indeed, thanks to Web 3.0, the user is now immersed in technology and is not only able to read and write, but they can read, write, and execute as well.

While the user of Web 1.0 was no mere than a passive consumer of information, s/he turned to be an active interactor thanks to Web 2.0, but s/he transcends such an interaction to contribute in the production of information change through the use of the semantic web of Web 3.0. Undeniably, Web 3.0 revolutionizes information discovery (Kesavan, 2013).

## 2 THEORETICAL FRAMEWORK

The theoretical framework of the present study is grounded mainly on three key authorities. Piaget's constructivism and Vygotsky's social constructivism as well as that of Zimmerman's social theory of learning. Interestingly, constructivism is a new approach in education that claims humans are better able to understand the information they have constructed by themselves. Rice (2007) claims that according to socio-constructivist theories, learning is a social advancement that involves language, real world situations, and interaction and collaboration among learners. The learners are considered central in the learning process. In addition, social learning theory posits that learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement.

## 3 THE STUDY

For this small-scale study, only thirty-nine participants could stay for the whole period of the project (four weeks) and filled out the surveys in both phases (at the beginning and by the end of the project). The participants are university learners of English as a foreign language at the school of humanities in Sidi Mohamed Ben Abdellah University, Dhar el Mahraz in Fes. The project took place for four weeks, and in each week, the informants were exposed to a different Web 3.0 App: Kahoot, Seesaw, Wheel Decide, Edublog, and BookWidgets. The learning process was conducted in an interactive funny way, and the learners were required to respond to multiple-choice quizzes and try to win points through different gamifications using their mobile phones and tablets. By the end of each session, five winners were given incentives (books and chocolates). The respondents were administered online questionnaires in two different phases: before they were exposed to the applications and by the end of the fourth week of the study. The aim of the questionnaire was to enlist the learners' rate of participation and their attitudes as well as aptitudes to the use of Web 3.0 Applications in their learning process. They were also asked to keep track on their online journals. The latter were observed along with students' rate of participation throughout the project.

### 3.1 Methods and instruments

#### 3.1.1 Participants

Sixty undergraduates enrolled in the third semester of English department at Sidi Mohamed Ben Abdellah in Fes accepted to participate in the study. The researcher announced the study in the two groups studying the module of Public Speaking and recruited participants. After removing the answers that were incomplete or did not have identifiers to allow the matching of the pre-

survey and post-survey, thirty-nine subjects' responses were included in this study. Of the 39 informants, 25 were female and 14 were male. Their average age at the beginning of the semester was 22. The participants were studying Public Speaking, third semester (S3).

#### 3.1.2 The exposure to Web 3.0 Apps

At the first meeting with the informants, a PowerPoint presentation about Web 3.0 Apps was introduced to the class in a face-to-face setting, and the synchronous and asynchronous interaction Web 3.0 Apps was hosted both online and face-to-face. The class activities concerning public speaking skills were introduced face-to-face through Kahoot and Edublog Applications, and students were encouraged to use their mobile devices (smart phones, tablets, and even personal computers). The participants were invited to upload their personal activities such as videos (public speaking, stage performance, debating, etc.), audios (recording their talk), and documents (short stories, essay writings, idioms, etc.) through their social web accounts which they had created in advance. The focus here was on google docs. They were also allowed to add their feedback and comments on other participants' contributions. All the activities had to be relevant to course of Public Speaking.

Prior to each session, the learners were sent a link of a new activity among the required elements of the course design in addition to a variety of exercises and quizzes. The feedback was online, but an exhaustive correction was in class.

#### 3.1.3 Research instruments and procedure

This project used a triangulation mixed method to increase understanding of the phenomenon and better follow learners' participation (Stake, 1995). First, the researcher plays a role of a participatory observer trying to infer the rate of learners' participation while using Web 3.0 technologies. Second, the participants were asked to keep track of their dairies on e-journal, stating their attitudes and aptitudes to the use of Web 3.0 Apps inside and outside classroom. Third, the subjects under study filled out a pre-exposure (to Web 3.0 Apps) questionnaire at the first meeting for the project. Then, they were introduced to different Web 3.0 Applications (Kahoot, Seesaw, Wheel Decide, BookWidgets, etc.). Hence, the informant's had been exposed to the applications through synchronously and asynchronously interactions in the sense that they receive weekly online assignments and face-to-face gamifications. The project lasted four weeks without noticing any absenteeism or lateness among participants. An equivalent post-exposure (to Web 3.0) questionnaire was administered at the end of the study. The questionnaires were administered online applying google docs and analyzed using the SPSS software.

The questionnaires drew informants' demographic data, their attitudes and aptitudes to Web 3.0 Applications as well as their potential motivation to participate in class and remain active learners. In addition, various factors that are related to learners' participation such as motivation, intrinsic motivation, extrinsic motivation, enjoyment, and initiation were included for the sake of correlational analysis.

As to the frequency of logging to Web 3.0 application, the informants were asked to report how much time they were using the applications per day and to what extent they used it for Public Speaking. They were also asked to report how many hours they stayed up responding to the online quizzes and gamification.

Concerning the attitudes towards the usage of Web 3.0 Apps, the participants were asked to rate on a Likert scale of 1–5 (strongly agree – strongly disagree) the usefulness of Web 3.0 applications for the course of

Public Speaking. For instance, the participants were asked to report whether Web 3.0 Apps helped them put into practice more activities of Public Speaking and whether they grasp them better.

Also, the informants' perceptions were measured by three items that tapped into their enjoyment in using Web 3.0 Apps for Public Speaking, for example: "I find Web 3.0 Apps (like Kahoot, Seesaw, Wheel Decide, BookWidgets) useful in supporting my understanding of Public Speaking Skills." The participants rated the five items on a Likert scale of 1–5 (strongly agree and strongly disagree).

As to their aptitudes in using Web 3.0 Apps, the subjects were asked to rate their usage of the most common Web 3.0 technologies in their learning process. They were also required to indicate the degree to which they agreed or disagreed with statements like: "It is absolutely necessary to use Web 3.0 Apps if I want to obtain high grades in my final exams"

By the end, the participants were asked to report the rate of their intrinsic and extrinsic motivation to participate inside and outside class by indicating the degree to which they are satisfied or dissatisfied with statements like: "Web 3.0 Apps helped me to answer/ask questions in class", "Web 3.0 Apps helped me to take initiative", and "Web 3.0 Apps helped me to feel more motivated to submit any task."

#### 4 DATA ANALYSIS

A paired t-test and multiple regression analysis were used to compare the participants' pre-survey and post-survey responses to see whether there were any positive significance of the incorporation of Web 3.0 Apps such as Kahoot, Seesaw, and Wheel Decide and their rate of participation. In-depth comparative analysis of the frequent user and infrequent user of Web 3.0 Apps during the four weeks was also conducted through an independent t-test to identify whether frequency of accessing Web 3.0 Apps produced different results. In addition, a chi-square test was conducted to examine whether there was a correlation between the frequency of Web 3.0 Apps Logging in and reported changes of the level motivation and degree of participation.

##### 4.1 Results

The outcome of the study is generated through three phases. Online questionnaire administered to the participants in two stages (before and after the project), students regular online journals, and the researcher's participatory observation. A comparison of the informants' answers in the two questionnaires before the exposure to Web 3.0 Apps and after experiencing Web 3.0 Apps reported a significantly greater frequency of participation orientation in the post-test. They also reported significantly greater confidence in their knowledge and skills related to participation readiness, which is confirmed through the higher rate of participation.

Figures 1, 2, & 3 depict the demographic constructs for this study's informants. The majority of participants' age group is from 18 to 21 years old (56% young learners). For gender, 67% of the informants reported female and 33% reported male. For the subject matter, all of the informants are students of Public Speaking Skills (100%). For Mobile Device ownership, a great number of participants report to own at least a smart cell phone (93%) and a personal computer (89%), while more than a half report to obtain a tablet (61%) and a very small number of informant have a smart watch (13%).

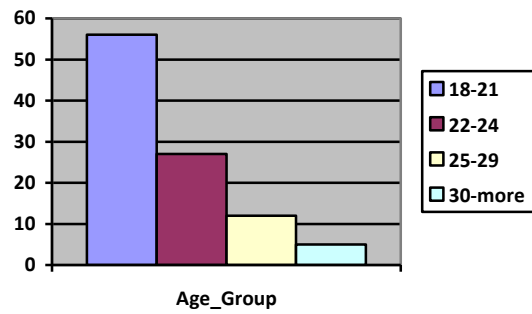


Figure 1 age group of the participants

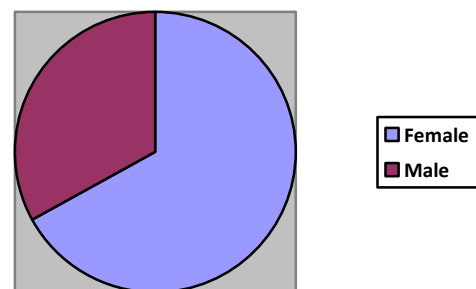


Figure 2 gender distribution

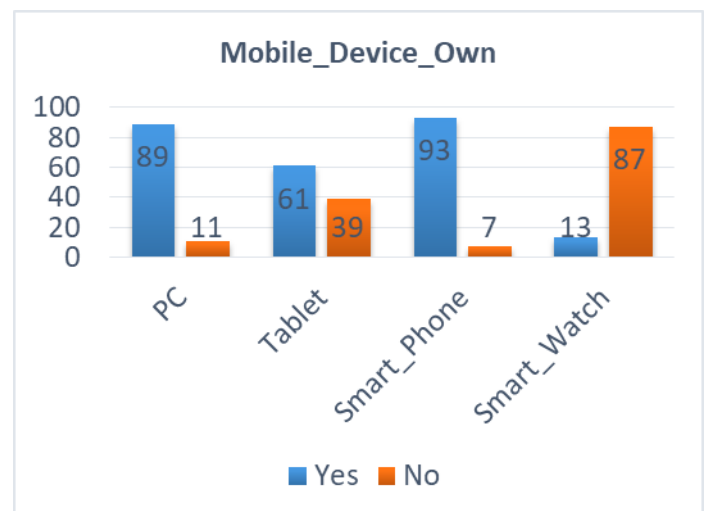
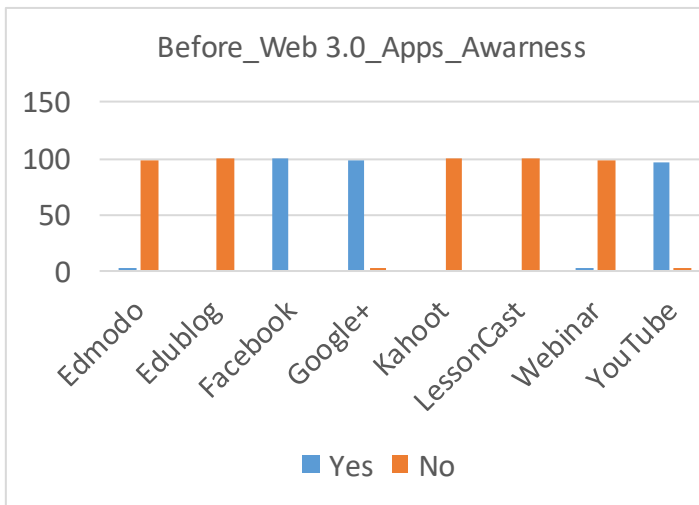


Figure 3 mobile device ownership among participants

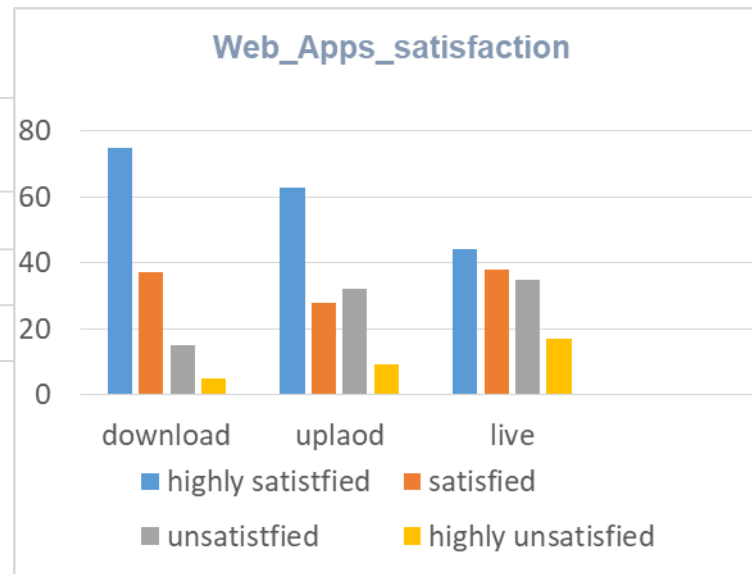
A paired t-test was used to compare the participants' pre-survey and post-survey responses to see whether there were any positive significance of the incorporation of Web 3.0. In-depth comparative analysis of the frequent user and infrequent user of Web 3.0 during the 4 weeks was also conducted through an independent t-test to identify whether frequency of accessing Web 3.0

produced different results. In addition, a chi-square test was conducted to examine whether there was a correlation between the frequency of Web 3.0 Logging in and reported changes of learners' participation attitudes.

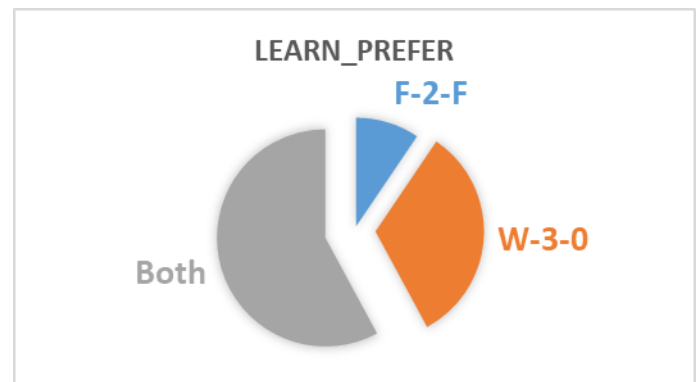


**Figure 4 knowledge & competence of web 3.0 application (before)**

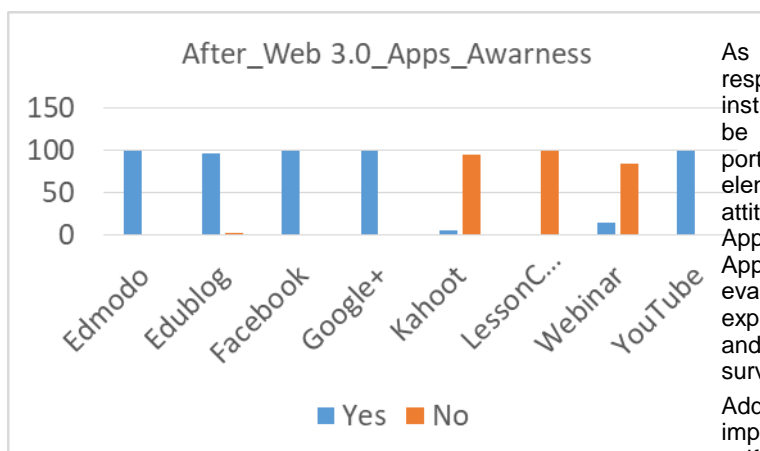
The survey's outcomes reveal that participants did not have basic competencies of main Web 3.0 Applications such as Kahoot, Edmodo, & BookWidgets before their exposure to Web 3.0 project (see figure 4 ), while they become not only aware but competent at the use and interaction through such applications after the participation in the project (see figure 5) abilities that did not transfer into high skill levels in the use of other technologies. Further, figure 7 shows the overall satisfaction of participants with downloading and uploading of their individual activities as well as with their live interaction while using Web 3.0.



**Figure 6 overall satisfaction to web 3.0 usage**



**Figure 7 participants' learning preferences**



**Figure 5 knowledge & competence of web 3.0 application (after)**

As to learning preferences, more than half of the respondents report to prefer both online and face to face instruction, while a third of participants report to prefer to be instructed through Web 3.0 technologies, and a tiny portion reports to choose face to face instruction. Other elements related to the informants' participation, positive attitudes and aptitudes were reported towards Web 3.0 Apps, positive attitudes of the compatibility of Web 3.0 Apps with their learning needs' diagnosis and outcomes' evaluation, and positive perceptions of the subjects' expectations of Web 3.0 Apps use for Public Speaking and participation in the post-survey than in the pre-survey.

Additionally, 25 out of the 39 participants (66%) reported improving their participation. The chi-square test between self-reported frequency of Web 3.0 Apps and Public Speaking was significant indicating that the frequency of accessing Web 3.0 Apps was correlated with the change in mastering Public Speaking. A closer examination of the data showed that the majority of the frequent users (91%) reported promoting their participation and thus developing their Public Speaking skills after experiencing

Web 3.0 Apps interaction. This finding confirms that Web 3.0 Apps was reported to have a positive effect on the informants' participation especially among the participants who frequented the Web 3.0 Apps.

## 4.2 Discussion

This study examines the effectiveness of Web 3.0 Apps on EFL learners' participation. The project lasted five weeks to elicit the participants' responses from pre-questionnaire and post-questionnaire (before and after their being exposed to Web 3.0 Apps). As an outcome the informant reported that they had frequented Web 3.0 Apps several times, and they had spent more than two hours per day scrolling down on Web 3.0 Apps. What is favorable is that Web 3.0 Apps were reported to have contributed to promoting participation. The participants in general reported a significant increase in the frequency of their participation. Hence, Web 3.0 Apps were successful, as intended, in prompting a better use of most of the required elements of Public Speaking and improving key components of participation.

The learners' participation come to the surf within the interconnection of class activities such as speaking, note taking, and reading; the learning framework like the curriculum, content, and learning experiences; the individual such as classmates and the instructor; and the learning setting such as face-to-face and online interaction.

In short, the overall outcome of this project reports the majority of respondents turn to be highly motivated and thus got new and distinctive ways of participating in class activities facilitated thanks to the use of Web 3.0 Applications such as Kahoot and Webinar.

## 5 CONCLUSION

This project explored the importance of including Web 3.0 Apps in a funny activities inside and outside the classroom of university learners in the enhancement of their participation and the extent to which Web 3.0 Apps contribute to learners' intrinsic and extrinsic motivation and the joy they feel while they interact in online gamification, which support their learning needs and objectives. The survey targeted the association of Web 3.0 Apps and the informants' learning process and accomplishment. The outcome displays that Web 3.0 Apps were fruitful in making a deeper understanding of Public Speaking individually, which implied a significant enhancement of students' motivation and retention to participate actively in learning.

Enhancing students' participation through Web 3.0 Apps and beyond the 'brick and mortar' classroom becomes mandatory if educators aspire to boost the incorporation of Web 3.0 (Benson, 2011; Kormos & Csizer, 2013; Lai & Gu, 2011; Reinders & Darasawang, 2012). This quasi-experiment study aims at highlighting an insight how to empower a spirit of participation among learners and instructors. The density of learners' online participation process requires more research endeavors with the purpose of deepening an understanding of such important research area (Hubbard & Romeo, 2012; Lai & Morrison, 2013).

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