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Social Networking Software as Instrument for Teaching and Learning in Nigerian Higher Educational Institutions

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Abstract:

Social networking software (SNS), also known as social media, is increasingly becoming a veritable tool in the hands of educationists across contexts. When juxtaposed with the ever-growing population of the youths-students accustomed to high levels of ICT use in all contexts of their everyday lives, is giving impetus to the need to analyse the extent to which the deployment of SNS could impact on teaching and learning in higher educational institutions, most especially in the frontier countries, like Nigeria. It is on this premise this study examined the effects of self-efficacy in digital technology, peer-group influence and resource availability on the adoption of social networking software on teaching and learning systems in Nigerian higher educational institutions. Primary data were obtained through structured questionnaire randomly administered to elicit information on the identified constructs for the study from both the students and the academic staff. Data obtained were analysed with the aid of descriptive statistical tools to identify association between social networking software and teaching and learning systems of sampled educational institutions. The study encouraged policy makers, educational practitioners, and developers to provide enabling environment for a successful adoption of e-learning systems for the benefit of education systems in developing countries.

Keywords: Social networking software, e-learning, resource availability, peer group, self-efficacy

1. Introduction

The growing population and fast-spreading nature of the 'digital natives' is giving impetus for the call to a paradigm shift in our educational delivery systems across societies. The advent of Social Networking Software, with features capable of digitally producing educational resources, descriptive and predictive learning analytics, are pushing for a change in the way we foist the learning processes. More so the introduction of Web 2.0 – a platform technology through which designers create web sites that act like desktop programs which encourage collaboration on free communication of information between users, is vastly blurring the divide between formal, non-formal and informal learning processes. As replete in literature, the widespread social networking practices is capable of fostering a 'legitimacy crisis' with our teeming youths, which have prompted stark warnings of a fast-growing 'digital disconnect' between students accustomed to high levels of ICT use in all contexts of their everyday lives and our learning process of formal education (Kenway and Bullen, 2001; Levin and Arafeh, 2002; Sewlyn, 2006). Social networking (SN), the online transposition of social networks, is related to a set of available technologies and services that enable individuals to partake effectively in virtual communities. As posited by Pattenati and Cigognin (2007), SN is emerging as a highly natural practice because it is deeply rooted in our daily behaviour; spontaneous relations, interactions and conversations support that is contributing to the creation and transmission of knowledge.

One of the fastest growing phenomena, world-over, is the social media usage as popular online activities. It was estimated to have attracted active users of 2.95 billion as at 2019, with a world-wide projection of 3.43 billion in the year 2023 (Clement, 2020). In its Social Media and user-generated content, the Statista in April 2020 revealed that China led the global number of SN users in 2018 with some 678.5 million; followed by India 326.1, while US users were 243.6 million. Projected figures of users in these leading countries for 2023 were given as 799.6, 447.9 and 257.4 million respectively. In

the frontier countries, Nigerian users' figure in 2018 stood at 29.3 million with a projected 2023 figure of 36.8, South Africa was 19.9m in 2018, expected to peak at 24.3m in 2023, while Ghana was 6.0m in 2018 and expected at 7.2m in 2023 (Clement, 2020). Thus, prominent educators, researchers, policymakers, and businessmen should remain open to the idea that the existing ways of teaching, learning, and designing learning environments may not adequately serve contemporary or future educational purposes, especially for the growing population of digital natives.

Learning can be described as the ability to acquire knowledge and/skills through study, experience and cognition with a view to adopt what is known, and through the know-how, adapt to everchanging circumstances to live a meaningful livelihood. As described by Barnett and Hallam (1999), learning is the acquisition of those human capabilities appropriate for adaptation to conditions of radical and enduring uncertainty, unpredictability, challengeability and contestability'. It should however be noted that learning, teaching, and scholarship are sociocultural phenomena situated in specific contexts and influenced by the cultures in which they take place. (Brown, Collins, and Duguid, 1989; Vygotsky, 1978). For intellectual self-development, formal and informal learning offer benefits to learners in different categories. While formal learning offer results in a pre-defined time frame, informal learning is a spontaneous, lifelong set of activities that keep individual interested, vibrant, and mentally active in his environment. Both benefits are combined for recipients of e-learning offered by the recent developments in information communication and technologies (ICT), as mostly epitomised in the latest Web 2.0.

Web 2.0, the second phase of the World Wide Web, as described by O'Reilly (2004), is a participatory social web that emphasises user-generated content, ease of use, participatory culture that is compatible with other systems, devices and similar products for end users. It is an e-learning tag designed to identify open, de-structured, immersive and relational learning process amplifying the learning curve towards the social, relational side of knowledge co-construction over the net (O'Reilly, 2004). And as submitted by McFedries (2006), the learning characteristics of Web 2.0, highlighting the social perspectives of relation, collaboration and user participated architecture include: the fact that the content is user-created and maintained (peer production, user-content ecosystem); the user-created and maintained content require radical trust; that the application usability allows rich user experience; that the combining data from different sources leads to creation of new services; and that the services get better as the number of users increases in an architecture of participation. The website offers opportunities for users to savour the benefits of virtual collaboration and interaction through social networking sites like Facebook, WhatsApp, Twitter, Google+, LinkedIn, Skype, Microsoft Office tools (e-mails, Power-points) YouTube, Flickr, blogs, wikis, etc. with dramatic global impact on the learning management systems.

Research works on e-learning usage and adoption have been on the increase, not only as a result of its potentials to lessen problems bedevilling education deliveries across contexts, but also that it has capacity to lessen the adverse effects of the ravaging Covid-19 pandemic. However, most of these studies emanated from the developed nations and are predicated on the prevailing conditions therein (Anderson and Gronlund, 2009; Farid and El Essawi, 2018; Kanwal and Reman, 2017). Pockets of academic works on the subject matter from developing nations could also be said to be skewed in favour of the Asian countries, with African and its sub-regions featuring negligibly. This becomes pertinent as extant literature were of the consensus that influential factors of adoption and usage of e-learning is a function of the sociocultural, demographics, as well as its contextual development that varies from one country to another (Anderson and Gronlund, 2009; Farid and El Essawi 2018; Kanwal and Reman, 2017). It is on theses premises this study examined factors affecting the adoption of SNS for teaching and learning in Nigerian higher educational institutions. Specifically, the study examined the extent to which self-efficacy in digital technology, peer-group influence, and resource availability affect adoption of e-learning for teaching and learning, as factors of adoption, in the developing countries context.

1.1. Learning as a Socio-Cultural Concept

In today's dynamic world, advancement in technology is revolutionising our daily lives, as it affects the way individuals think, relate, communicate, and learn and the way we interact with ourselves. Technology is about bringing tools and implements together to promote development in the use and exchange of information with the objective of making human tasks easier. In the field of education, it has succeeded in making learning more interesting, collaborative and at the same time more interactive. As posited by Allen (2017), where it is employed, technology, in the mode of e-learning has assisted learners to improve their engagement with learning materials while proffering solutions to myriad of problems in their studies.

A number of theories and models have been propounded in literature to demonstrate the importance of advancement in technology to education and learning. They variously explain and predict learners' attitudes towards acceptance, adoption, and continued use of information technology in their studies. The Technology Adoption Model (TAM), propounded by Davis (1986), explains how people perceive and decide to accept and use a technology. Fishbein and Ajzen (1975), in their Theory of Reasoned Action (TRA), explain the relationship between attitudes and behaviours that reflect within human actions. The theory of Planned Behaviour (TPB) as propounded by Ajzen (1985), also explained human behaviour as a function of behavioural intentions via attitudes towards behaviour, social influence on behaviour and perceived behavioural control. The Unified Theory of Acceptance and Use of Technology propounded by Venkatesh et al. (2003) is another theory that explains user intentions to employ an information system and subsequent usage behaviour of individuals. While all these and more theories and models have been employed in literature to determine the rate of acceptance of technology in the advanced countries, the rate of technological advancement coupled with the resulting socio-cultural, economic, political as well as demographic factors are putting impetus to the need for a paradigm shifts in our education delivery systems across contexts. And as asserted by Velestianos (2016), the ever-increasing costs of higher education, the sporadic growth in the population of 'Net Geners', and the increasing demand for educated

workforce are giving policy makers, researchers, educators, and government planners the push to rethink the traditional learning approach.

The TPB is a predictive model that explains individual behaviour as a function of intention with respect to attitudes towards behaviour, social influence on behaviour, and perceived behavioural control (Ajzen, 1991). It is a very influential model of technology adoption that is robust and widely adopted by researchers across contexts. In consonance with the TPB is another robust and parsimonious model of TAM, in which Davis (1986) explains and predict learners' intentions to use e-learning technology. The TAMs core constructs are the Perceived Ease of Use – this describes the extent to which an individual believes using a particular system would be effortlessly easy, and thus positively affect usage through attitude; and the Perceived Usefulness – which describes the degree to which an individual believes adopting a technology improves job performance. Extant literature is however replete with the consensus that most of these models are only suitable for the advanced countries in which they are propounded and employed (Anderson and Gronlund, 2009; and Khan and Nawaz, 2013). They contend that there appear wide differences between educational environment of the advanced nations compared with that of the developing countries.

It should however be noted that Taylor and Todd (1995) decomposed the TPB, by incorporating the subjective norms. The subjective norms describe how an individual's behaviour is influenced by some critical environmental variables including resource availability and accessibility; desire for social interactions among peers; and self-efficacy. Resources accessibility and availability can be described as the facilitating condition that not only makes the technology easily available and within the reach of intending users (tutors and learners); also, other resources like the time (to use) and money (to procure) must be within their reach.

The desire for social acceptance is the peer influence as it affects behaviour. This reflects the individual perception of whether his behaviour would be encouraged and accepted within their circle of influence. Thus, adoption and acceptance of a technology like e-learning would be impacted by the presence and disposition of referent groups like tutors and student colleagues to learners. Self-efficacy, another subjective norm, can be described as individual judgement of their capacity to utilise a new technology. It is defined as an individual capability to perform a behaviour (Compeau and Higgins, 1995; Taylor and Todd, 1995). Taylor and Todd (1995) posited that self-efficacy is related to higher levels of behavioural intentions and usage of new technology. It is on these premises this study examined factors affecting the adoption of SNS for teaching and learning in Nigerian higher educational institutions.

2. Methodology

The study employed random sampling technique to select three (3) public universities in the southwestern states of Nigeria. Primary data obtained through structured questionnaire were randomly administered to elicit information on the study identified constructs for the studies from both the students and the academic staff. Statements relating to each constructs that were presented before each individual student were equally reframed for academic staff to ensure total quality of data gathered for the study. Data obtained were analysed with the aid of descriptive statistical tools to identify association between social networking software and educational delivery system of sampled educational institutions.

3. Results and Discussion

This study examined the effects deployment of Social Networking Software as instrument for teaching and learning systems in Nigerian higher educational institutions. Specifically, it examined the effects of self-efficacy in digital technology, peer-group influence and resource availability on e-learning adoption in tertiary educational institutions in Nigeria. Primary data obtained through the instrumentality of structured questionnaire administered on both students and academics respondents were analysed via descriptive statistical tools to identify the association between the deployment of social networking software and educational delivery system in our tertiary institutions. Both respondents' responses were compared to determine the readiness of our education stakeholders to adopt SNS for teaching and learning system in Nigeria.

Table 1 indicated that 73% of the sampled student respondents agreed that SNS deployment would make learning more interesting. This demonstrate the extent to which student population is desirous of the SNS deployment to serve as an improvement on the existing learning system. In the same vein and from Table 2 (Appendix 2), 63% of academic respondents also agreed to the fact that digital technology will make teaching efficiently easier and interesting. This also indicated that a higher proportion of academics believe in the efficacy of e-learning. The results are in tandem with the assertion of Purdue University (2019) that technology has become a powerful tool that can support and transform education in many ways, from making it easier for teachers to create instructional materials to enabling new ways for students to learn and work together. Similar view expressed by Pettenati and Cigognini (2007), is that SN is emerging as a natural practice because it is deeply rooted in our daily behaviour, spontaneous relations, interactions and conversations that support informal learning that contribute to the creation and transmission of knowledge.

S/N	Particulars	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	I feel digital learning will make self-studying more interesting for me	38	35	11	09	07
2.	I am knowledgeable enough to benefit from digital learning	43	34	08	08	07
3.	Studying can be done conveniently anywhere I am with my phone	37	38	15	06	04
4.	Digital technology platforms enable robust studying from variety of perspectives	46	33	08	08	05
5.	Most students currently communicate easily on digital platforms	45	32	06	10	07
6.	A lot of my colleagues are computer literate and are benefiting from e-learning already	45	35	07	09	04
7.	Group studies become easier with e-learning	44	31	15	05	05
8.	Using digital technology in learning would enhance my social image	46	39	09	04	02
9.	Access to reading materials are effortless with digital technology	45	34	06	09	06
10.	There is efficient university internet to ensure the use of social networking software for learning	16	18	26	24	16
11.	There is adequate availability of relevant infrastructure to ease ICT adoption on campus	18	14	35	25	10
12.	Our university can boast of enough hard/software systems to encourage ICT adoption	15	15	36	20	14

Table 1: Analysis of Student Respondents Responses on E-Learning Adoption

Source: Field Survey (2021)

S/N	Particulars	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1.	I feel employing digital technology will make learning more interesting for my students	34	24	19	12	11
2.	e-learning will make teaching efficiently easier	36	27	22	07	08
3.	I feel e-learning can improve students' satisfaction with the course of study	35	24	20	12	09
4.	I believe digital technology will improve lecturer/student interface	35	25	20	12	08
5.	A high proportion of my students are currently communicating using digital technology	37	26	17	12	08
6.	I believe it will be more convenient for students to use e-learning for their group studies	34	28	20	10	08
7.	I would feel comfortable sharing social networking platform with my students	36	24	19	14	07
8.	Using digital technology in learning would enhance my students' social image	36	22	15	15	12
9.	e-learning will make students access to reading materials effortless	37	25	17	13	08
10.	There is efficient university internet to ensure the use of social networking software for learning	20	11	24	25	20
11.	There is adequate availability of relevant infrastructure to ease ICT adoption on campus	18	12	31	21	18
12.	Our university can boast of enough hard/software systems to encourage ICT adoption on campus	16	13	31	22	20

Table 2: Analysis of Academics Respondents Responses on E-Learning Adoption

Source: Field Survey (2021)

On the question of ease of use, Table 1 revealed that 77% of sampled student respondents agreed that they are knowledgeable enough to benefit from e-learning. Thus, making use of the technology has become part of their daily lives and should not pose any serious problem if deployed in their education process. And from Table 2, 63% of academic staff respondents also agreed that e-learning will make teaching efficiently easier. Thus, teaching and learning are set to derive greater benefits from the deployment of digital technology. This results tally with the view of Velestianos (2016) that the existing model of teaching, learning and designing learning environments may not adequately serve contemporary and future educational purposes. Furthermore, Velestianos (2016) posited that emerging technologies can provide opportunities to transform education, learning and teaching, and address educational problems. For instance, open textbook is poised to make college more affordable.

Table 1 revealed that 77% of sampled student respondents agree that they currently communicate easily on digital platforms. This indicates that a large proportion of youth population are at ease with digital technology, and that it is in vogue, they are comfortable with it. In the same vein, results from Table 2 showed that 63% of academic staff respondents confirmed their crop of students currently communicate through digital technology. These results are in tandem with Moje and Lewis (2007), in their contribution to Emergence theory that events and phenomena occur spontaneously and unexpectedly in dynamic environments that both influence activities and are both influenced by those same activities. In other words, technologies and practices developed for other purposes, but are integrated into education, like open textbooks or wikis, eventually mould and are themselves moulded by teaching and learning activities of communities (Moje and Lewis, 2007).

75% of sampled students respondents, from Table 1 agreed that group studies become easier with e-learning. This implies that students can learn from each other from the comfort of their homes through digital platforms. Table 2 also revealed 62% of academic staff respondents believe it is more convenient for students to leverage on digital technology on their group studies. The results corroborate the assertion of O'Reilly (2004), that Webb 2.0 App offers opportunities for users to savour the benefits of virtual collaboration and interaction through social networking sites like Facebook, WhatsApp, Twitter, Google+, Microsoft Office, etc. with dramatic global impact on learning management systems.

From Table 1, 79% of sampled students respondents agree that access to reading materials is effortless through digital technology. This means that whatever information or educational resources needed can be downloaded from any part of the globe. Table 2 also revealed that 62% of academic staff respondents agree to the ease with which reading materials are made available through digital technology. This further ease education practices on the part of both staff and students. The idea of virtual library is also a means through which administrations reduce costs of education while making robust reading materials available to their students. The results are in line with the submission of O'Reilly (2004), that Web 2.0 is a platform technology through which designers create websites that act like desktop programs which encourages collaboration on free communication of information between users.

On the availability of adequate internet facilities to ensure easy use of social networks on campus, Table 1 revealed that 34% of sampled students respondents agree that there are adequate internet facilities on their campus. Similarly, Table 2 indicated that only 31% of academic staff respondents agree that internet facilities on campus were adequate. These results revealed the major obstacle to the attainment of digitalised education in our various educational institutions. However, interested the academic staff and students are, they become frustrated in the face of non-availability of networks.

Table 1 also revealed that only 35% of sampled students respondents agree that there is adequate availability of relevant infrastructure to facilitate easy adoption of digital technology on their campus. Also, only 30% of sampled academic staff agrees to adequate ICT infrastructure as indicated in Table 2. This is another bottleneck in the quest of higher institutions to leverage on digital technology to improve on their education delivery systems. As laudable as the potentials of e-learning to proffer solutions to Nigeria's most pressing problems in her education delivery systems, the epileptic and inadequate supply of electricity, as observed in the world Bank Report (2021) is the bane. This is not peculiar to education alone, but very pervasive throughout the economy.

On the availability of hardware and software systems that encourage and facilitate ICT adoption, Table 1 indicated that a paltry 32% of sampled student respondents agree their campus have them adequately. In the same vein, Table 2 indicated only 29% of sampled academic staff respondents agree that their campus is adequate in their provision. The paucity of funds and the poor funding systems of public higher education in Nigeria has much to be desired. A system where compensation and its mechanism always put university workers into perennial scuffles cannot accommodate required investments in the acquisition of sophisticated ICT facilities for efficient education delivery services. Most higher institutions in Nigeria cannot boast of well-equipped laboratories, including computer laboratories nor virtual libraries.

4. Conclusion

The study examined factors affecting the adoption of SNS for teaching and learning in Nigerian higher educational institutions. Sociocultural variables of self-efficacy in digital technology and peer-group influence were examined. Also is the influence of resources availability as they affect teaching and learning in frontier countries, like Nigeria. Findings revealed that while a large proportion of youth population in Nigeria, especially students of higher educational institutions, can be categorised as 'Net-geners' or 'Digital-natives', who have variously keyed-in into using digital technologies. They currently enjoy the benefits of virtual collaboration and interaction through social networking platforms like Twitter, Wikis, WhatsApp, Facebook, Skype, Microsoft Office tools, and more. These they leverage upon to do general communication, play games, watch movies and generally socialise on the account of which they already

demonstrate literacy and efficiency. This large population of students also enhance their images through participation and belonging to the community of social network users.

On the other hand, results obtained from the study also indicated that while access to reading materials across contexts is adjudged effortless by the multitude of sampled respondents, lack of efficient internet facilities, inadequate infrastructural facilities, especially electricity constituted a major hurdle for education authorities to cross. At the same time, the issue of inadequate supply of ICT resources seems to be another general problem bedeviling the adoption of e-learning, as the study result indicated.

On the whole the potentials of digital technology to improve education delivery systems cannot be denied, most especially as it proved to be in tune with the socio-cultural orientation of the youths. And since learning occurs during social interactions between individuals and through individual internalisation of social behaviours, the corroborating aspects of resources availability need be developed to achieve the desired objectives of making education delivery more efficient. Policy makers, administrators, researchers, education authorities are hereby enjoined to create conducive environment for the adoption of e-learning as it offers greater opportunities to integrate our youths properly into the polity, reduce the costs of education, and contribute to the creation and transmission of knowledge in our societies. This call also becomes imperative as the idea of virtual classroom, a prominent feature of e-learning possesses greater potential to curb the spread of Covid-19 that has up till now defy all antidotes.

5. References

- i. Anderson, A., and Gronlund, A. (2009). A Conceptual Framework for E-Learning in Developing Countries: A Critical Review of Research Challenges. *The Electronic Journal of Information Systems in Developing Countries* 38(1): 1 – 16 <https://doi.org/10.1002.j.1681-4835.2009.tb00271.x>
- ii. Ajzen, I. (1991). The Theory of Planned Behaviour. *Organizational Behaviour and Human Decision Processes*, 50, 179–211.
- iii. Allen, M. (2017). Distance Learning. *The SAGE Encyclopedia of Communication Research Methods* <https://methods.sagepub.com>
- iv. Barnett, R., and Hallam, S. (1999). Teaching for Super-complexity: Pedagogy for Higher Education. London: SAGE. (137–54). <https://www.researchgate.net>2477>
- v. Brown, J. S., Collins, A., and Duguid P. (1989). Situated Cognition and the Culture of Learning. *Educational Researcher* 18(1):32 – 42 <https://people.ucsc.edu>files>
- vi. Cheng, Y. M. (2011). 'Antecedents and Consequences of e-learning Acceptance,' *Information System Journal* 21(3): 269 - 299.
- vii. Clement, J. (2020). Number of Global Social Network Users 2017 – 2025. Statista. <https://www.statista.com>statistics>
- viii. Compeau, D. R., and Higgins, C. (1995). Computer Self-Efficacy: Development of a Measure and Initial Test. *MIS Quarterly* 19(2): 189 – 211 <https://www.jstor.org/stable/249688>
- ix. Davis, F. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13, 319–339
- x. Farid, S. F., and El Essawi, N. (2018). Students E-Learning Acceptance: An Empirical Study through
 - i. Extending Technology Acceptance Model in the Education Sector. *Journal of the*
 - ii. Faculty of Commerce for Scientific Research 55(2): 153 – 164. <https://acjalexu.journals.ekb.eg>
- xi. Fishbein, M., and Ajzen, I. (1975). Believe, Attitude, Intentions and Behaviour: An Introduction to Theory and Research. Boston: Addison-Wesley. <https://people.unmass.edu>aizen>
- xii. Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2013). *Multivariate Data Analysis*, 7th ed. London, U.K.: Pearson Education.
- xiii. Kanwal, F., and Rehman, M. (2017). Factors Affecting E-Learning Adoption in Developing Countries: Empirical Evidence from Pakistan's High Education Sector. 10968 - 10978 <https://ieeexplore.ieee.org>
- xiv. Khan, A. S. and Nawaz, A. (2013). Role of Contextual Factors in Using E-Learning Systems for Higher Education in Developing Countries. *Semantic Scholars* <https://www.semanticscholar.org>
- xv. Kenway, J. and Bullen, E. (2001) 'Globalising the Young in the Age of Desire' Paper presented at the Travelling Policy Local Spaces Conference, Keele University, June 2001
- xvi. Levin, D. and Arafteh, S. (2002) 'The digital disconnect' Washington DC., Pew I Project
- xvii. McFedries, P. (2006) *The Web, Take Two*. IEEE Spectrum, p. 68.
- xviii. Moore, G. C., and Benbasat, I. (1991). Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation. *Econ Papers Information Systems Research* 2(3): 192 – 222 <https://ecopapers.repec.org>
- xix. O'Reilly, T. (2005) 'What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software' <http://www.oreilly.com/pub/a/oreilly/tim/news/2005/09/30/what-isweb-20.html>
- xx. Pettenati, M. C., and Cigognini, M. (2007). Social Networking Theories and Tools to Support Connectivist Learning Activities. *International Journal Web-Based Learning and Teaching Technologies* 2(3): 1 – 19 <https://www.semanticscholar.org>
- xxi. Selwyn, N. (2006) 'Exploring the 'Digital Disconnect' Between Net-savvy Students and Their Schools' *Learning, Media and Technology*, 31(1): 5-17
- xxii. Taylor, S., and Todd, P. A. (1995). Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research*, 6(2), 144–176.

- xxiii. Velestianos, G. (2016). The Defining Characteristics of Emerging Technologies and Emerging Practices in Digital Education. AU Press. ISBN 978-1-77199-149-0
- xxiv. Venkatesh, V., Morris, M. G. B., and Davis, F. D. (2003). User Acceptance of Information Technology Toward a Unified View. *MIS Quarterly* 27: 425 - 478
- xxv. Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- xxvi. World Bank (2021). Small and Medium enterprises Finance: Improving SMEs Access to Financing and Finding Innovative Solutions to Unlock Sources of Capital. World Bank SME Finance Development News, Research, Data. <https://www.worldbank.org/en/topic/smefinance>