SUB THEME 10
Al (Artificial Intelligence) and digital restoration

A Study on the utility of the Facilities Provided by the Google Earth Software for Historical Studies

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Introduction

In historical studies, non-field research and field research are mainly used to compile sources. Google Earth software can be pointed out as one of the most popular web applications introduced by Google as a very valuable web application for conducting a preliminary field study. This software is of particular importance to users as a low-cost deployment software to remotely monitor and take measurements of spatial data prior to site-wide studies. On the one hand, this software also works as a geographic information system, and to obtain photos of the ground through satellite technology, to use cartographic methods such as Point Line-Polygon to record certain information on the ground, and to observe the position of the ground and the nature of the ground in 2D and 3D form. Historical information is very important software in researching through field tests. The technology behind it was created in the early 1990s. The software was originally called Earth View 3D and was developed by a company called Nehayadaka funded by the US Secret Service. Since the Earth View 3D software was created for intelligence agencies, it was easy for them to have many satellite images containing various information about the world for free. Accordingly, through this software, the real appearance anywhere in the world can be represented through the computer screen. Thus, it is confirmed to us that for historical studies, Google Earth (Google Earth) software provides many unique facilities for users. Accordingly, the main research problem was to study the uses of the facilities provided through the Google Earth software for historical studies and to identify the Google Earth software and to identify the facilities provided to the users through the software, etc. were the primary objectives of conducting this Research.

Research Methodology

The study method used by a researcher in carrying out any research is of particular importance. According to that, qualitative research method is used for the research conducted under social science and humanities subjects. Accordingly, the study method used in conducting this study was the qualitative research method. In conducting this study, under the qualitative research methodology, the existing utilities of the facilities provided through Google Earth software for historical studies have been investigated. In data collection, data is collected by studying secondary literature sources, newspapers, map media and Google Earth Software as well as magazines and libraries where information about Google Earth software can be obtained and theoretical methodology is used in data analysis. The research was conducted by identifying the data under the self-analysis method, analyzing the data and drawing conclusions.

Research Results and Discussion

Google Earth software can be identified as a unique web application for compiling information for historical studies and it was revealed that this software provides many unique facilities for users. This software has a huge amount of data, including unique photos and other data. Two-dimensional maps have been combined to make a three-dimensional world that looks like a globe. The ability to rotate the globe with any hand or zoom in on it can be mentioned as an important facility. Also, through this program, we can mainly observe information that we can see geographically, such as physical features such as topography, water flow, distribution of biosystems, as well as human geographic features, i.e. a lot of information about the human-made environment. It is possible to study a lot of information, such as the distribution of settlements, how human activities have affected the environment, the concentration of human activities according to the environment, etc. Thus, it is important to find out how this modern technical tool can be used for historical studies. Accordingly, this software is more important for field studies. Mainly, field study is one of the most important and unique methods of studying historical information. In the steps of a field study, when a researcher chooses a field for his studies, to observe the areas related to the field from

a distance, to advance to the field, to prepare temporary study plans, and to get a good understanding of the field before moving, through the use of this program in historical studies. Able to. (Google Earth) is a unique browser that accesses satellite and aerial imagery, topography, ocean bathymetry, and other geographic data over the Internet to represent the Earth as a three-dimensional sphere. Google also calls it Google Earth, a graphics browser.

The research results revealed that Google Earth software basically provides many services for users. Accordingly, in the concept of global coverage, Google Earth appears to provide a broad coverage of the Earth and allow users to explore almost any location on the planet, from the majestic wonders of nature to urban cityscapes. The integration of Street View also allows users to virtually walk through streets and neighborhoods, getting a realistic perspective of different locations. The Google Earth feature in historical representations enables users to travel back in time and track changes in landscapes over the years. It is particularly useful for studying urban development, environmental changes and historical transformations.

Also, this software provides a global perspective that allows understanding and appreciating the diversity of the planet. It enables us to explore different local cultures and natural wonders, create a sense of interconnectedness, and promote global awareness. (Google Earth) software also serves as a valuable educational tool. It appears to enhance the learning experience for students of all ages. It seems to open up a visually appealing platform to study geography, history, archaeology, environmental management and other subjects. Also, this software seems to provide a unique service for the various research and analysis needs of the users. (Google Earth) provides a powerful contribution to researchers studying various phenomena. It provides access to vast amounts of geographic data, satellite imagery, and historical imagery that can be used for scientific analysis, environmental research, urban planning, and more. Also, this software is important in the environmental awareness and conservation process. Google Earth plays a critical role in promoting awareness of environmental issues and conservation efforts. Demonstrating the impact of climate change, deforestation and other environmental challenges encourages people to take action on them and

make more sustainable choices in their lives. The software contributes to the preservation of cultural heritage by digitally documenting and preserving historical sites, landmarks and monuments. For vacation planners, Google Earth offers a unique opportunity to explore destinations from their homes. It allows users to visit tourist attractions, study hotel locations and plan routes to enhance the travel experience. It seems that Google Earth software has made a revolutionary change in the world context.

Thus, overall, Google Earth software serves as a powerful tool for exploration, education, research, planning and it seems that (Google Earth) allows users to explore any place on earth. When studying the results of the research, it is confirmed that Google Earth software is an extremely important computer tool. In studying its usability, it was revealed that it offers many unique user services, such as information exploration, education, research, planning, determining environmental awareness, cultural preservation, personal enjoyment, collaboration and access to real-time information. It was also confirmed that Google Earth basically works by combining different technologies and data sources to create a virtual representation of the Earth's surface. Accordingly, from the analysis of data in the research, it can finally be concluded that Google Earth (Google Earth) software provides many unique services for users for historical studies.

Key Words: Historical Studies, Google Earth, Field Studies, Aerial Photography, Users.

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Formulating Digital Wellbeing from the Employee's Perspective: Directions for Future Research

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Introduction

The attachment to digital devices of users around the world has been skyrocketing with the spread of COVID-19 pandemic (Buabbas et al., 2020). However, implications of using digital devices show mixed results on users (Dias & Victor, 2022). Some studies show that usage of digital devices is good for mental wellbeing such as increasing the thoughts of self-efficacy (Tetri & Juujärvi, 2022) and expanding the virtual community (Thoma et al., 2018). But many studies stand in the side of serious repercussions caused by using digital devices frequently such as; high level of mental stress due to over usage (Abi-Jaoude et al., 2020), sleep disturbances (Cellini et al., 2020), lumping low-self-esteem (Miljeteig & Soest, 2022), less physical activities (Ince, 2023), and cyberbullying and cybervictimization (Aljasir & Alsebaei, 2022). Hence, a sustainable behavior of digital users is crucial to manage individuals' overall health (Gulati, 2022).

As a solution, many studies point out that the employee/person wellbeing provides a sustainable platform to effectively manage employee/person behavior (Corral-Verdugo et al., 2011; Delea et al., 2019). It has been strongly emphasized that the concept of wellbeing is too general (Breslin, 2017). Hence, precise applications of wellbeing are required with the purpose of eliminating employee's / individual's negative behaviors (Disabato et al., 2016). Thus, there must be a digital intervention to eliminate the repercussions of overuse of digital media (Beslin, 2017; Büchi, 2021). Hence, the sustainable solution for unwellness of persons/employees does not lay on an action or series of actions but plots on a sustainable human behavior. The solution may be Digital Wellbeing (Abeele, 2021; Büchi, 2021; Cecchinato, et al., 2019). Even though, the trajectory of digital wellbeing during the last six years is expanding (2017 to 2023), there are many researchable areas which are still unaddressed creating some inspiring research avenues for the

researchers in the realm of business management. On the other hand, most of the existing published studies on digital wellbeing are technology-focused and a very little is available under the behavioral aspect of users (Cecchinato, et al., 2019). Hence, digital wellbeing is an area which deserves to be researched further.

Literature Review

The construct 'wellbeing' has been evolving as a social psychological phenomenon since 1970s (Lawton, 1983) which traditionally flourished within the philosophy of ethics (La Placa et al., 2013). Various studies show scattered classifications of wellbeing (Diener et al., 2009; Disabato et al., 2016). However, the construct digital wellbeing has not been recognized as a part of wellbeing (U.S. Department of Health & Human Services, 2018). Mainly there are two facets of wellbeing namely; objective and subjective wellbeing (Alatartseva & Barysheva, 2015; Voukelatou et al., 2020). All related literature unites to classify digital wellbeing under the subjective facet of wellbeing (Abeele, 2021; Büchi, 2021). Hence, this is a qualitative construct which is impractical to quantify in terms of numbers and monetary values but can be declared based on subjective judgments.

The existing meanings for digital wellbeing have no significant variances. A widely used and a meaningful interpretation on digital wellbeing is given by Abeele (2021) in which, digital wellbeing is a subjective individual experience of optimal balance between the benefits and drawbacks obtained from mobile connectivity. However, limiting the definition only to mobile connectivity is a weakness. Meanwhile, Büchi (2021) stressed that digital wellbeing considers the positive emotions of individuals; satisfaction of the life domain such as job, relationship, or studies; and overall life satisfaction in the society characterized by the constant abundance of options available for digital media use. Thus, digital wellbeing is about the subjective wellbeing resulting from a proper balance between positive and negative user experience.

However, Roffarello and Russis (2023) argue that many digital wellbeing researches focus on the negative user experience and the construct is interpreted as the attempt to reduce the negative user experience. However, it is strongly recommended that wellbeing

definitions should be more oriented with positive user experience (Abeele, 2020). Thus, these technical or digital media-based definitions do not provide a holistic view on the construct of digital wellbeing (Abeele, 2020; Büchi, 2021; Roffarello & Russis, 2019).

Moreover, it can be seen that many authors tend to use both digital wellness and digital wellbeing interchangeably to covey the same meaning. However, wellness and wellbeing are two different but relatable concepts. Digital wellbeing is known as the set of knowledge, skills, and attitudes related to a safe and secured online behavior by ensuring the privacy of information, where digital wellness is recognized as a competency that lies in broader digital literacies (Feerrar, 2020). Thus, digital wellbeing is a narrower area compared to digital wellness. But, digital wellness should be ensured across the digital wellbeing of an individual over a longer period of time.

Giraldo-Luque et al. (2020) pointed out that the main objective of any digital platform is to grab users' attention. High level of constant attention leads individuals to addict to particular digital media and this is an enemy of the digital wellbeing (Roffarello & De Russis, 2022). Thus, many scholars perceive digital wellbeing as an addiction free behavior of individuals and spending a less time online. However, it is curious to find out if digital wellbeing only means the addiction free behavior of individuals or something more than that.

Finally, it is very hard to find out a unique operationalization on the concept Employee Digital Wellbeing in the literature. Generally, it is coined as the use of technology to ensure an employee's physical and mental health (Wang et al., 2023) but a theoretically validate and specific definition for the term is still unknown. Hence, the present study has to take that responsibility to present a theoretically validated definition for employee digital wellbeing.

Methods and Methodology

A systematic literature review was conducted in order to delve the unaddressed areas of digital wellbeing in the domain of business management research from the employee's perspective. After finalizing the research problem, 38 suitable research articles were chosen from three main research databases, Google Scholar, ScienceDirect, and

Emerald Insight. Those articles were then summarized in a Microsoft Excel sheet and conducted a thematic analysis to finalize the findings. The guidelines provided by Xiao and Watson (2019) were acknowledged for this systematic review. As per the guidelines, the review has been executed in eight steps; (step 1) formulation of the problem, (step 2) development and validation the review procedure, (step 3) exploration of the literature, (step 4) screening for inclusion, (step 5) assessment of quality of literature, (step 6) extraction of data, (step 7) synthesizing the data, and (step 8) finalization of the findings (Xiao & Watson, 2019).

Results and Discussion

It was mainly found that the construct, digital wellbeing is still lacking even a researchable definition. Therefore, it is certain that digital wellbeing should further be operationalized in a researchable form to relate it to the employees at work. The potential applications of digital wellbeing of employees in business organizations still remain unaddressed and its directions in terms of technological user-based viewpoint are clear but in terms of managerial (decision-making) employee-based viewpoint are almost unknown. As per the systematic literature review, it was found that digital wellbeing can be related to business research in favor of individual point of view in four avenues; (i) exploration of the determinants of Employee Digital Wellbeing (EDW) within the job roles of employees, (ii) enhancement of the engagement of employees towards digital wellbeing at work, (iii) development of a reliable and valid Employee Digital Wellbeing Scale (EDWS), and (iv) conceptualization of a framework for employee digital wellbeing by postulating the plausible variables.

Conclusion and Remarks

The purpose of this study was to investigate the future research directions of the construct, digital wellbeing by relating to business management research from the employee's perspective. Despite the sufficient improvements of this construct in its technical aspect, it was found that this has not yet matured as a researchable construct in the business management academia. The author would like to suggest for future researchers a new construct called Employee Digital Wellbeing

(EDW) and then properly define it firstly. Then, the determinants of EDW should be explored scientifically, making adequate theoretical contributions of engagement of employees towards digital wellbeing at work, development and validation of an EDW scale, and conceptualizing a plausible framework for EDW by postulating its determinants.

Keywords: Digital Devices; Employee; Digital Wellbeing; Social Media; Virtual Community.

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The Impact of Artificial Intelligence in Enhancing the Writing Skill of ESL Learners.

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Introduction

English as a global lingua franca plays a pivotal role in academic discourse particularly in higher education. In fact, L2 writing skill is very important in all the fields of study and disciplines especially for writing research articles for publications and conferences attended by academics. However, ESL learners encounter many difficulties even to construct sentences and paragraphs in English with correct semantic and syntactic order. The most commonly identified difficulties are the misuse of articles, grammatical aspects, appropriate contextual vocabulary, correct syntactical order, lack of content, wrong usage of cohesive devices, spelling and punctuation marks. In short, the learners face a lot of challenges to master the intricacies of L2 writing. In this pursuit, the advent of Artificial Intelligence (AI) has emerged to bridge the gap between learner difficulties and L2 writing skill. Moreover the integration of AI technological tools in the ESL writing classroom has witnessed remarkable growth in recent years. Therefore this research endeavors to delve into the profound implications of AI technology in the context of ESL writing. The study aims to explore the multifaceted ways of using the AI technology ranging from checking grammar and spelling correction to personalized feedback in L2 writing. It also investigates the broader implications of AI technology in L2 writing.

Literature Review

In the field of teaching and learning English as a Second Language, AI tools and applications have a significant role in the enhancement of writing skill. The literature review provides the existing studies on the influence of AI technology on L2 writing.

AI technology in language learning

Artificial Intelligence has a significant utilization in language learning as it gives personalized real time feedback and assistance to address the unique challenges ESL learners face. A study was done by

Ali.Z, 2020 on "Artificial Intelligence (AI): A Review of its uses in language teaching and learning". There are several studies including Fitria.T.N, 2021., Pikhart.M, 2020., Hockly.N, 2023., Son.J, Ruzix.N and Philpott.A, 2023 and etc are based on the impact of AI in language learning.

Grammar and Spelling

The studies based on grammar and spelling indicate that AI tools are immensely favourable for the enhancement of writing skill. A study was done on the topic of "Beyond Grammar and Spelling: Supporting the writing process with Artificial Intelligence tools" in the University of Graz, Austria. (Eibinger.V; Furstenberg.U, 2021) There are further studies on AI tools to check grammar and spelling including Ghali,M.J.A., Ayyad, A.A., Abu-Naser.,S.S and Laban, M.A.,2018., Barrot,J.S., 2022, Fitria,T.N., 2021, Wu,Ya-Ling., 2014 and so on.

Enhancement of Vocabulary

To adhere to writing skill, appropriate vocabulary knowledge is important to convey the meaning effectively and successfully. AI powered writing tools suggest synonyms, and explanation of meaning. Thus it helps for the expansion of vocabulary of the learners. There are studies that investigate the impact of AI in enhancing the vocabulary knowledge of ESL learners in order to improve their writing skill including; Alsadoon,R.,2021, Aravind,B.R., and Kuvvetli,M.,2023 etc.

Language Translation and Accessibility

AI driven translation tools facilitate language comprehension by allowing ESL learners to translate content from their native language (L1) to Target language (L2). A study was done by Lee,S.M and Briggs,N.,2021 on "Effects of using machine translation to mediate the revision process of Korean university students' academic writing". Another study investigated the use of Google translate in EFL drafts. (Tsai.S.C.,2019) A similar study was done by Cancino,M. and Panes,J., 2021.

In summary, the integration of AI tools in the ESL writing classroom showed substantial enhancement in the writing proficiency of the learners. However, addressing the challenges, continuous research is substantial to investigate the potentiality of AI technology in ESL classrooms. Therefore the present study examines the impact of AI technology on the third year Faculty of Arts students of University of Jaffna.

Research Questions

The study addressed the following research questions.

- How do AI tools help the development of writing skill of the ESL learners?
- What strategies can be employed in the ESL classrooms to effectively navigate the AI tools to enhance the writing skills of the learners?

Methodology

Study Sample

The study involved twenty undergraduate students from Third year First Semester of the Faculty of Arts, University of Jaffna. Random sampling was done to carry-out this study. They were divided into two groups: an experimental group and a control group consisting of ten samples for each group. This division was made after the pre-test, not based on their performance.

Study Method

Mixed method was used to investigate the data. Pre-test, post-test and classroom observation were the data collecting instruments used to collect data.

Study Design

This study is designed as an experiment to know the impact of AI technology in improving the L2 writing skill of ESL learners. Initially a pre-test was conducted to evaluate the standards of the learners. Then the grouping was done randomly; where the experimental group was taught through AI tools and traditional lecturing methods whereas the control group was taught through traditional lecturing mode only. Experimental group was allowed to use Grammarly, ProWritingAid and Chat GPT. Both the groups had equal lecturing and tutorial hours. And they both have been given opportunities for enhancing learner autonomy.

Results and Discussions

Table 1 shows the difference between the means of the experimental group in the pre-test and post-test. Table 1

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest	63.2000	10	6.28579	1.98774
	posttest	77.8000	10	5.07280	1.60416

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	pretest & posttest	10	.552	.098

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	pretest - posttest	-14.60000	5.48128	1.73333	-18.52107	-10.67893	-8.423	9	.000

The improvement of the average along with the decreasing standard deviation indicates the enhancement of the writing skill of the experimental group. It is further emphasized by the paired sample T-test where the significant value is less than 5%.

Table 2 depicts the difference between the means of the control group in the pre and post-test. Table 2

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest	62.2000	10	7.52477	2.37954
	posttest	59.2000	10	5.71159	1.80616

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	pretest & posttest	10	.878	.001

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	pretest - posttest	3.00000	3.71184	1.17379	.34471	5.65529	2.556	9	.031

Compared to Table 1, Table 2 indicates lack of improvement on the performance of the learners of the control group. It is further emphasized by the Paired Sample T-test where the significant value is 31% which is greater than 5%.

Furthermore, significant improvement was identified in the experimental group through classroom observation. Since learners are more techno friendly in today's technological era, they have easily adapted to the AI tools. And they used them easily to get the maximum benefit to improve their writing skill. They used AI powered writing tools consistently and improved their grammar and spelling. They enhanced writing fluency as AI tools assisted them by offering guidelines. Moreover, the AI technology helped the learners who have difficulties in brainstorming and lack of content. On the other hand, the vocabulary knowledge was enhanced and expanded since the learners find more synonyms appropriate for the context. As the experimental group received personalized feedback regarding the writing patterns and style, they are more confident in writing. Though initially they depended more on the technological tools, gradually they adapted to the syntactic and semantic structures of L2. In other words, the learners gradually learnt to use AI technology as a guide and write on their own. Overall, a pivotal improvement was observed in the grammar, spelling, using appropriate vocabulary, content, and confidence of the experimental group. Moreover, the interaction of AI technology into ESL writing classrooms has shown substantial potential for enhancing writing skill. AI tools are more beneficial for ESL learners who are involved in writing academic projects.

6. Conclusion

Though the usage of AI tools show a significant improvement in the writing skill of the ESL learners, it is advisable to integrate AI technology with human instructions. Because there is an on-going concern about balancing the support of AI with human interaction. Because the over-reliance on AI tools diminish the spontaneous thought process of the learners. Therefore, it should be integrated thoughtfully into ESL instruction, considering individual learner needs and maintaining a balance between automated assistance and human guidance.

In fact, at present teachers focus on a blended method of teaching and learning as it is more effective. Therefore Artificial Intelligence tools can be integrated into the traditional method of teaching and learning to get better outcomes. At this juncture, the curriculum designers and policy makers should be more attentive in allocating the lecturing and tutorial hours for technology based

and traditional methods of teaching in order to balance AI and human interaction in ESL instruction.

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