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ABSTRACT

Data-mining done by data companies on ICT tools and the law of attraction comes out with a similar idea in terms of the outcome produced. In order to comprehend the idea, this paper dwells into the data rights, privacy policies and securities of the target application (Google Assistant and Amazon Alexa) that are used in the process of language teaching and learning. A lot of researches focus on the implication of ICT tools in language classrooms and so this paper reports on the ethical considerations that must be looked into before implementation of any ICT tools in language classrooms. Reasons for and against the use of Voice Assistants in terms of data privacy have been discussed with detailing on the similarities between the theory of law of attraction and the effect of data mining. The findings suggest that the constant and productive use of ICT tools in language classrooms will alter the students' data pattern towards his/her area of study. The research suggests that it is the duty and obligation of the implementer to verify the tools to be inculcated and use it productively.

Keywords: Voice Assistants, Data concerns, Language Learning, Ethical considerations, ICT tools

1. INTRODUCTION

The use of Voice Assistant in language classrooms is a cutting edge technique for language teaching and learning in which the efficient artificial intelligence is used as an aid to assist the teachers and students in language classrooms. Such potential VA is used through Mobile Assisted Language Learning (MALL). MALL is quickly attracting new users as it has enhanced capability and sophistication (Viberg, 2012). Though the use of technologies such as MALL and VA are colossally making a difference in the process of language learning, these aren't without their backdrops. The usage of modern Information and Communication Technologies (ICT) involve potential gains and losses. Safety of sensitive data of the students is questionable when internet steps inside the classrooms. There is always a risk of data theft, accidental exposure, ransomware, data masking and many more while using smart devices. Therefore, the privacy policy and data security must be looked into before implementation of any modern ICT tool in classrooms.

The obligation and responsibility of language educators are not bound by mere instruction of language, rather by ensuring the safety of the students' data and their privacy. Thus, it is mandatory to discuss the data concerns involved in using mobile technologies in language classrooms. The focus of the article has been narrowed down to Voice Assistant which is one of the tools of repute in language classrooms. The most frequently used VA in language studies are Google Assistant and Amazon Alexa. This paper examines the data privacy policies of these two apps and elaborates its usage on the data collected by them.

The paper, further, puts forth an argument in favour of the usage of ICT tools in language classrooms by collating the idea of law of attraction to data mining. The privacy policy of authentic applications such as Google Assistant and Amazon Alexa very clearly states that the data collected from the users will not be sold to any third party applications or brokers, rather it will be used to personalise and customise the user interface. Additionally they ensure that the personalisation of data will favour the users in terms of their interests and needs.

By using ICT tools that data-mines students' data in classrooms, the data pattern of the students will be altered more towards education. This, in turn, will recommend the student with more educational related content. The respected search engine used by the student will update the user about the current trends in the field of his interest either through social media or through other connected services. Though the use of ICT tools might have got risks, it also has enormous potential to guide the students if used accordingly.

1.1 Objective of the paper

The paper discusses the data concerns in using Voice Assistants in language classrooms in particular to Google Assistant and Amazon Alexa. It further elaborates on the advantages and disadvantages of the data being shared from the user through educational technology. The objective of the paper is to unlace the process of data mining, compare it to the law of attraction and to find out potential precautions to use any ICT tools in language classrooms.

1.2 Uniqueness of the paper

While most of the papers on applied linguistics focus on the application of ICT tools in L2 classrooms, this paper examines and considers the data privacy and policies that should be dealt with. The paper also puts forth a novel theory which connects the law of attraction with data mining.

1.3 Research Question

RQ1: Is the data shared with Google Assistant and Amazon Alexa safe? If yes, what are the potential risks involved?

2. Voice Assistants in Language Learning

Voice Assistants or Intelligent Personal Assistants or Smart Voice Assistants are being increasingly available with low or no cost. Acknowledging their efficiency, a number of educationists and researchers are making use of these up-to-date technologies in language classrooms. A number of empirical studies have been conducted so far in language learning classrooms and these apps are being promoted to be used in self-learning as well. The idea of having a friendly companion in language learning further motivates the learners to communicate with them without any blockage or hesitation (Agnes, 2019). A research on the implication of Voice Assistants indicates a notable growth in pronunciation of the learners. Earlier research carried out with VA on language learners have given fruitful results which has further motivated the researchers to explore its efficiency on language skills and sub-skills with different level of learners (Tsourakas et al., 2021b). The renowned use of VA in recent times can be attributed to its ability and capability; the ability to engage in a natural language, its availability and cost efficiency. In addition to all these, it provides the learners with the opportunity to speak meaningfully and interact unpretentiously (Underwood, 2018).

3. Data mining and Artificial Intelligence

The rapid increase in the use of mobile technology and the market it holds has given birth to the rise of data mining technology. Data mining techniques basically performs “predictive features based on modelling”. The objective of this technology is to collect the data from the users and find out patterns in the data collected. Individual’s data with the use of Customer Relationship Management (CRM) helps any organisation to formulate specific behavioural patterns of the user. CMR is a computer intelligence which mines the data of the customer in order to personalise their user experience. These type of data mining are generally used on a large database to automate the customised content of the user, based on their interests (Schork, 2019). The data of the customer, often times, is collected through the ‘Customer’s Internet Browsing Patterns’ (Zhang et al., 2007).

As given in Figure 1, data mining not only helps the advertisers to reach their target consumers but also helps the consumers to be able to easily access their desired products. Apart from distribution of advertisements, the data is used by companies to analyse the taste of the consumer and to retain his interest in experiencing the particular platform. The Artificial Neural Network (ANN) assembles or connects the information collected and creates a personal user profile. This intelligence is based on human cognitive system to comprehend and take decisions in a human like manner. Experimental study shows that the predictions made by ANN generates promising and accurate results. Another widely known technique is the Intelligent agents. Keeping in account the large volume of data in the internet, the intelligent agents collect information even through keywords and includes it in a profile which acts as a guide to personalise the content of the user (Soltysiak & Crabtree, 1998). Data mining approaches such as these are used to “determine user groups and deliver the recommended items according to the user’s needs” (Paireekreng & Kok Wai Wong, 2010).

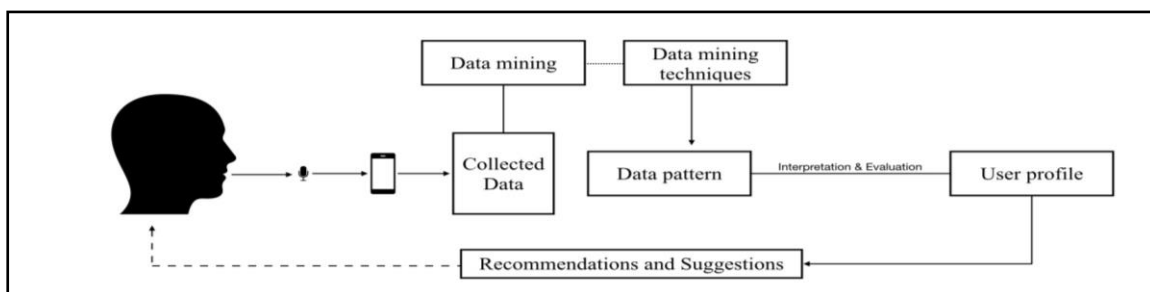


Figure 1. A flow chart of data mining

Specifically when looked into Voice Assistants, it was no different than other data mining platforms. A research article states that half of the VA made attempts to identify the users’ personal information. The result of the paper revealed that out of the 782 applications, more than 300 apps tried to identify user information in the beginning of the conversation.

The tested apps sought to obtain the user personal information such as name, date of birth and blood group through casual conversation. The collected data will be used accordingly (Natatsuka et al., 2019). Therefore, the personal information of the user will be gathered whether they are third-party applications or legitimate apps like Google Assistant and Amazon Alexa. It is the responsibility of the user to read the privacy policies of the applications they use.

4. Data Rights

Data privacy is considered as a basic human right. According to Forbes, data privacy “will soon be a human right around the world”. To protect the civilians, countries all across the world such as California, India, Singapore and Japan are actively pursuing legislation in terms of data privacy and protection (Raval, 2019). And data rights of any individual should be treated with utmost importance. Especially, students participating in educational technology should be well-informed of their data rights. The frequently used method to inform participants of any study regarding data rights is by informing them through written consent form. However, studies have revealed that participants often do not comprehend the information written in the consent form (Beardsley et al., 2019). So it becomes mandatory for the teachers to be aware of the privacy policy of the technology that they use in the classrooms and be responsible for the data of the participants. And provide the participants of the research “the information that is adequate to their competencies in order for them” to understand and take decisions (David et al., 2001). A review article on the implementation of Voice Assistants in language learning has made mention of only Google Assistant and Amazon Alexa. These two applications are being predominantly used in language teaching (Tsourakas et al., 2021). The privacy policy of Google ensures its users that they “do not sell their personal information to anyone”. Rather google says it uses the data to personalise and customise the user’s experience; from the language we speak to the advertisement we might find useful (Google Assistant Help, n.d.). Amazon Alexa, on the other hand, states that they do not sell their customer’s personal information. Rather, Amazon collects data to prevent frauds and credit risks (Amazon Customer Service, n.d.). Despite these companies ensuring its customers regarding data protection, there is always a potential risk of data theft through third party websites or applications. These thefts are caused by and large because of the ignorance of the users while accepting to the terms and conditions of the services. It is the duty of the language teacher to be aware of the privacy policies of the main and third-party application, websites and softwares they implement in the classrooms.

5. The Law of Attraction in Internet

The law of attraction is a philosophy which states that ‘being positive brings positive outcome and negative thoughts bring negative outcome’. While there are many philosophical justification for the theory, it lacks any logical proof and is generally considered a pseudoscience (Byrne, 2022). However, the theory can become a fact if applied to the internet. The data mining procedures used in the internet creates specialised data and aspects of the user. The data got through mining is then used to personalise and customise the user interface. This creates a possibility for the user to view more content that is relatable to oneself. The theory of law of attraction works as the same this. The user seeks content which he is more interested in and so he is provided with more content on his interest. For example, if a user is interested in quantum physics, his account will provide him more content related to quantum physics. He will see advertisements related to courses on quantum physics. Similarly, if an individual is a movie enthusiast he/she will have their browsers and social media filled with movie related contents.

On an average, an individual spends around three hours a day on their smart phones (Howarth, 2022). Therefore, the use of smartphones has become an integral part of everyone’s life and its content will have a great impact on the life of the user. If such impactful smartphone is not loaded with educational related contents, the user might possibly miss to acknowledge the contemporary knowledge in the field. This could be resolved through integrating smart phones in classrooms. If students are allowed to use their smart phones for educational purpose within classrooms, the data gathered through data mining will make a huge impact on the pattern of the mined data. For example, if a student is encouraged to use his/her smartphone in the classroom to gather information on an educational topic for over a semester, during or at the end of the course, the data collected through student’s use of the smartphone will determine that he/she is in need of educational content.

As given in Figure 2, a student who learns language through Voice Assistant in classrooms will use language related keywords such as ‘pronunciation’, ‘language’, ‘spelling’, ‘teach me English’, ‘translate’, etcetera. The pattern of these keywords when data mined, will provide an information to the database that the student is interested in language learning. And so the student while using his smartphone will often times be notified with ‘language learning ’related contents.

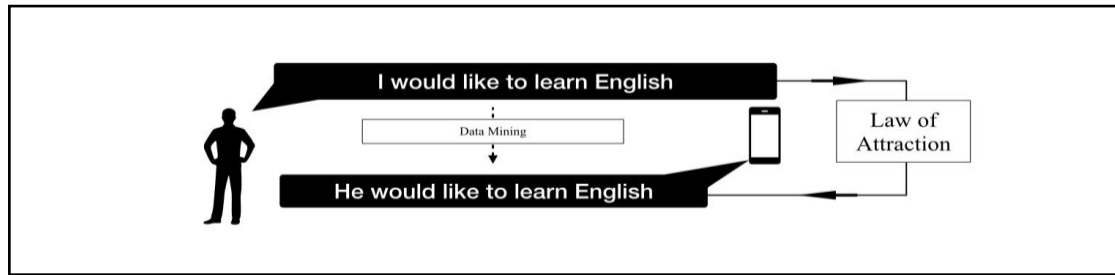


Figure 2. Data mining and Law of Attraction procedure

6. Findings

Big data companies such as Google and Amazon does not deny the fact that they collect personal information from the users. But, they ensure their users that they use the data as described in their privacy policies. The privacy policy of the companies claim that the collected data is being used to build better services. And it does not sell our information to anyone. However, it might also lead to potential risks due to the ignorance of the user. The data stored by the companies can be shared with third party applications with the permission of the user. And so, to ensure safety, the regulators of the class must go through the privacy policies of third-party applications before inculcating it in language classrooms.

7. Future scope of the study

The study is limited to discussions of data concerns on Voice Assistants. Researchers in future could possibly carry out their research on the data concerns and ethical consideration of other ICT tools used in language teaching and learning with focus towards media apps. Researchers working on the integration of media apps in language teaching and learning must pay attention towards data protection.

8. CONCLUSION

The use of modern technologies such as VA in language classrooms has undeniably enhanced the teaching and learning process. Nevertheless, the privacy and security of students and teachers cannot be compromised for the purpose of learning. Reading through the data policies of Google Assistant and Amazon Alexa, it could be summarised that the data which are being collected from the user are used to personalise and improve the users' services and experience. As a matter of fact, the big data companies collect our information to provide us with customised information. And most importantly, the user's data pattern will be designed according to his/her interest. This process of data mining is very similar to that of the philosophical theory 'Law of Attraction' which states 'positive thoughts bring positive outcome' and vice versa. Applying this theory to the ICT tools in education could possibly change the data patterns of the users' smartphone. The more the students use ICT tools for educational purposes, the more his/her data pattern, while data mining, will alter towards educational content. Resulting in the student getting information frequently connecting to his area of study. Similarly, the more the student is not allowed to use his/her smartphone for educational purpose, the data pattern while data mining will not acknowledge his/her area of study resulting in a reverse effect. Therefore, before implementing any ICT tools in language classrooms, it is the duty of the teacher to verify the authenticity of the tool and read its privacy policies. Once verified, the effective use of these tools in classrooms on a regular bases will positively provide and recommend the student with more education related contents.

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