Language Teaching Competencies in the Era of Artificial Intelligence: A Theoretical Investigation of AI-Augmented Learning Structure

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Abstract

Teaching is the most complex profession in the 21st century as the levels of student's knowledge and proficiency have been ameliorated rapidly since the introduction of technology in classroom scenarios. Today's generation is much more efficient and desirous of developing their critical thinking abilities and productivity with the help of the rapid intervention of artificial intelligence. To support the consequence, teachers of this age are vigorously attempting to adapt themselves to the growing phenomena of Artificial Intelligence in the overall teaching spectrum. Artificial intervention in the language arena substantially transformed language education because of its transcendental ability to connect with different languages across the globe, irrespective of race, ethnicity, or multi-cultural context. This content analysis-based research paper mainly focused on the scopes, opportunities, and challenges of Language teachers in demonstrating linguistic proficiency in the era of Artificial Intelligence. This theoretical investigation explored the comprehensive understanding of language proficiency essential for teaching under an AI-augmented learning structure and its scope in regional language instruction especially in an Indian classroom context. The upcoming challenges it poses for teachers surpassing beyond human capacities are discussed with a proper assumed solution. The researchers collected secondary sources from research articles, papers, and websites to analyse and gain a deeper understanding of AI-enhanced language articulation in the teaching domain.

Keywords: *Artificial Intelligence, AI-Augmented Learning Structure, AI-Powered Learning Platform, Language Teaching Competency*

Introduction

Teaching since the origin of society had been the only authentic source of knowledge disbursement where the teacher was solely responsible for sharing and disseminating knowledge among the disciples. As days passed the role of the teacher became more complex and strenuous with the inculcation of professionalism and competency-based dynamics with the traditional role of teaching-learning. In the later 20th century with technological infusion, the role of teaching started to get modified where teachers successfully induced technology for knowledge sharing over various multimedia like broadcasting channels, audio, videos, and lastly the usage of the internet as the worldwide cradle of information maintained and used by experts and stakeholders. Studies have shown how technology-mediated platforms dominated the learning experiences for a considerable period (Kessler, 2018). The language teachers have been working against the Google translator with detailed research and advanced publications on how to best use these tools (Coley, et.al, 2023). The technological advancement got its hasty momentum when Artificial Intelligence was operationalized as mere technologically simplified equipment, not as complex machinery that can only be maintained by software or tech experts. In November 2022 when the ChatGPT got the spotlight, it got acknowledgment as an artificially structured tool that can be vigorously utilized in the teaching-learning aspect for both teachers as well as students. ChatGPT is generative AI tools which have been designed to respond and produce texts according to the prompt provided by the user. Being a large language model, it has created immense potential as well as abrupt challenges for the new-age language teachers whose competencies and knowledge expertise need to be refined on a regular basis to get acquainted with the new linguistic revolution the academia is facing from these advanced tailored tools. Research studies showed how ChatGPT can be employed in material development, creating tailored documents for individual learners and providing real-time feedback on learners' performance improving overall learning experiences (korashi, 2023). There are other text-based generative AI tools like Gemini, Google Bard, and Claude which can be used and proctored by the language teachers in their classroom maintaining ethical and moral considerations. In a language teaching classroom listening, reading, writing, and speaking with proper expression of creative thoughts are key components that can be illuminated with the help of text-based AI tools. These tools can enhance the writing, proofreading, or summarizing of any literary piece to delve better understanding and insight into the scholarly text for both students and teachers overcoming the time constraints to evolve critical illustrative thoughts for building an active and engaging language learning classroom. AI-powered augmented learning emerges as a fundamental structure for futuristic digital education. By embarking on AI-powered digital pedagogy and investigating voice-based instructional AI and text-based generative AIs; the stakeholders of the language community unbolted new pathways for engaging, immersive, and personalized learning experiences (Nagarajan, 2023). A study revealed how Artificial intelligence can be profoundly exercised as innovative tools like automated writing evaluation tools, and language learning applications for evaluating language awareness and proficiency of students as well as the teacher community (Umar, 2024). Studies also revealed the positive attitude of Early Childhood teachers towards the application of ChatGPT in English as a Second language learning classroom as a very useful pedagogical tool though expressing concern regarding the potential risks on the young language learners (Allehyani & Algamdi, 2023). A study showed positive attitudes and significant influences of teachers using a partial least square-structural equation modeling towards the relationship between Artificial intelligence and a series of

competencies like fundamental, cognitive, and managerial (Simut, et al., 2024). Artificial Intelligence should be practically intervened for professional translation purposes in language classrooms (Wang, 2023). There is a significant need to familiarize and increase the level of using AI tools for language instructors to face the current challenge (Klonke, Moorhouse & Zou, 2023). A Hong Kong-based experimental study examined the AI-based intervention study which showed greater evidence of student's knowledge development regarding Generative AI-tools deployment in improving pedagogical competencies while there were relatively lower shreds of evidence of teacher's capacity to guide students to use Ai-tools effectively and ethically (Moorhouse, et.al, 2024). Using an AI-driven platform optimizes the communication skills of both teachers and students (Madaliyevna & Dilafruz, 2023). Reviewing the relevant studies the researchers decided to explore the competencies required for language teaching in AI-augmented learning structures.

This theoretical investigation obtained a clear reflection on how the linguistic competencies of teachers can simultaneously get accelerated at the same time impaired by the infusion of Artificial Intelligence specifically in a teaching-learning context. This study aimed to explore the required competency for language teaching in the era of Artificial Intelligence based augmented learning scenario, the major challenges faced by the teachers, and delve into the prospect of Artificial Intelligence in regional language teaching specifically in the Indian context. This paper also tried to put the role of language teachers under the lens of 'trans-humanism' where the vigorous linguistic understanding of AI surpasses the limited capability of human teachers having command over hardly 2 or 3 languages on average. This machinery intervention inadvertently placed the teaching profession at stake and new approaches must be followed to protect the linguistic arena from being technologically rich yet culturally superficial. Researchers based on the data aimed to suggest ways for future language teachers to be relevant and stay attuned in teaching for upcoming ages.

Methodology of the Study

A content-based analysis was used to gain a comprehensive understanding and to answer the research questions to fulfill the overall objective of the research study. Mainly secondary sources including research papers/articles from National, International peer-reviewed and refereed journals were studied to gain insight regarding the current scenario of teachers in the current scenario. Besides these, Newspaper Editorials, E-contents, blog posts, and websites were reviewed to clarify the research objectives addressed in this paper. Some English textbooks and pedagogy-specific books were chosen to explain the language skills and proficiencies required for the teachers in the classrooms. The research articles directly linked with technology in Teacher Education were given due importance with the papers dealing specifically with linguistic teaching used as support for establishing the relation between the scope of generative artificial intelligence in language teaching. The research papers that dealt with technological intervention in different professional areas like management, law, and other professional training programs were also considered to get a complete overview. The researchers here mainly collected online newspaper portals and editorials exclusively discussing artificial intelligence in the context of teaching. E-contents provided on the websites of reputed institutions worldwide with their blog posts or videos are being explicitly discussed. The content analysis includes specific points to answer the research questions accordingly.

Result and Discussion

The findings were presented against four basic research questions after analyzing the secondary sources found by the researchers. The tables shown in this study were based on the data pattern and interpretation.

The influence of AI-augmented learning structure on language teaching competencies

Language teaching competencies encompass certain pedagogic skills, approaches, techniques, and methods adopted by language experts and teachers to efficaciously teach abstract linguistic concepts to students. There are certain key linguistic competencies, approaches, techniques, theories, skills, language teaching theories, and assessment procedures that are significant functional components in teaching language classrooms. A language teacher is supposed to have both hard and soft skills. Being a discipline included in Humanities a language classroom equips a sensitive environment where human expression and connection, cultural heritage, and critical thinking are valued equally. Learning a language demands analysing grammar, syntax, and critical interpretation of text which involves cognitive ability with ethnic knowledge to contextualize the proper understanding of a given text. A table has been presented to describe the brief details about the componential units of English teaching and learning.

Table 1: Description of functional component of language teaching

Functional Components	Description	
Approaches	There are some crucial approaches that have been accepted globally which are mentioned below- Total physical Response, Communicative language Teaching, Grammar translation method, Task based language teaching, Content and Language Integrated learning, Language Immersion etc.	
Skills	Receptive skills • Listening • Reading	Productive skills • Speaking • Writing
	• Grammar • Vocabulary • Pronunciation	
Techniques	Listening Technique: ❖ Audio Scripts ❖ Listening Comprehension Exercises ❖ Dictation Reading Techniques ❖ Extensive Reading ❖ Intensive Reading ❖ Reading Comprehension exercises ❖ Vocabulary building strategies	

	Speaking Techniques: ❖ Role plays ❖ Debates & Discussion ❖ Pair and group work Writing Skills: ❖ Writing prompts ❖ Journal writing ❖ Collaborative writing Vocabulary Technique: ❖ Word association ❖ Flashcards ❖ Games and activities Pronunciation technique: ❖ Listening & Repetition ❖ Pronunciation drills ❖ Mimicry & Imitation
Assessment & Evaluation	Knowledge of language got assessed through ❖ Written test ❖ Oral Test ❖ Listening and reading comprehension tests
Teaching Competencies	❖ Subject matter competency ❖ Communication competency ❖ Methodological Competency ❖ Pedagogical Competency

The major operational units of language teaching provide the readers the opportunity to critically analyze which aspects of Artificial Intelligence can be beneficial in these components of language teaching. AI-augmented learning structures vivaciously shifted the paradigm from one teacher to many students and many teachers to one student. Artificial Intelligence even changed the diction of traditional e-learning models which are mainly confined to structured, time-released, subject-cleared content and physical or virtual class participation guided by a single teacher. As a substitute, AI-augmented learning experience furnished the teaching experience with higher personalized instruction through AI-based intelligent tutoring and AI teaching assistants empowering students to have masteries over their fields (Gordon, 2024). Previous studies have shown immense benefits of using Artificial Intelligence in the language learning domains if responsible and ethical implementation is assured (Mushtoza et al., 2023). A phenomenological study developed themes that suggested that technological advancement should be well balanced with traditional pedagogical methods so that teachers must enfold innovation in teaching while maintaining the necessary human touch in education (Ambit, 2024). The researchers attempted to elucidate how artificial intelligence is used to enhance language teaching competency by illustrating the scopes and opportunities of AI-based learning structure in the language domain. The researchers showed the general implacability of AI-augmented learning structure in language teaching competency through its large technical automated support system which is mentioned in

the below table-

Table 2: Implication of AI-powered support system on Language Teaching

AI-Powered support system	Applicability in Language Teaching
AI-powered Personalized Learning experience	AI can deliver customizable language learning experiences through tailored content adapting to different learning styles and paces of learners. As an example, if a teacher uses AI-powered platforms to assess a learner's work, with the help of sophisticated algorithms it can detect patterns of error in vocabulary, sentence structure, grammar, and pronunciation based on which it can eventually suggest the required exercise for teachers to address the specific area of improvement.
Speech Recognition and Voice Assistance	Artificial Intelligence is already used in speech recognition for its innate ability to understand and interpret spoken language. It can be revolutionary in practicing accent and pronunciation correctly in classroom scenarios both for teachers and students. Teachers can take the help of AI tools which can perfectly analyze the diction, intonation, and rhythm of learners in targeted languages which seems to be difficult for single teachers to monitor. It is immensely supportive for Non-Native speakers to achieve fluency and command over targeted language.
Creating and Curating Content	Language teaching worldwide depends on specialized content to a large extent. It provides a gateway for students and teachers to get the opportunity to read and better understand literary pieces such as drama, poetry, novels, or any literary document to get proficiency in a targeted language. AI-based large language model helps to curate the data and produce a refined content source for teachers to share among students eliminating the time constraint of classroom hours involving students in critical inquiry.
Automated Grading & Assessment	A significant feature of AI-trained learning tools is supplying immediate and real-time solutions to any problem asked for. The language teacher might take the help of Artificial Intelligence to evaluate a large number of language exercises from simple grammar quizzes to complex writing tasks of students and provide imputation for the improvement area of students. It can reduce the workload of language teachers in classroom contexts and allow them to facilitate a more engaging and interactive classroom.

Real time translation and subtitling	The concept of instantaneous translation and the subtitling of the target language in AI-powered learning platforms almost obliterated the language barrier for teachers and students from different linguistic communities to engage in interactive and informative communication in the classroom. It evolves cross-cultural communication to gain language proficiency for both teachers and students.
Inclusivity and Accessibility	A language classroom comprises students from different multi-cultural and multi-lingual backgrounds of differently able students. It's almost impossible for a language teacher to support all the students as there are certain limitations. With the help of an AI-powered tool, teachers can design the learning experience with its vast adaptive user interface covering a range of physical and cognitive disabilities. For instance, speech recognition can help the visually impaired, and visually interactive content assists hearing-impaired students. A single AI-powered platform can reduce the burden of using different assistive technologies.
Data Driven insight for better teaching	The large data capacity of AI helps to store the student data regarding the improvement area, error treatment, and their strength and weaknesses which helps teachers to understand current trends in language learning and help to stay up-to-date in the language domain. It also supports teachers and stakeholders to modify the content and readjust the curriculum to foster the linguistic skills of students.

The elaborative details mentioned in the table can help to get a vivid description of the general applicability of artificial intelligence in language teaching and Learning in the global context. These dimensions of AI-powered support system prerequisite crucial role of teachers as educational organizers who can effortlessly incorporate the effectiveness of Artificial Intelligence into any conventional foreign language classrooms (Golub, et al., 2024). The researchers decided to enlist the major AI-powered platforms, tools, and applications that can be used in certain functional components of language teaching with the help of another table.

Table 3: AI-powered tools and platforms for language education

Functional Component of language teaching	Name of AI-powered tools & Platforms
Language skills: Listening, Speaking, Reading, Writing, Grammar, Vocabulary and pronunciation	To serve all the language skills there are various available AI-tools which are listed below: • ChatGPT- A large Language model mainly focused to develop the reading and writing skill of language learning

	that helps a language teacher through producing learning material for classroom purpose
	• Twee- A high definition AI-platform aims to focus on English teachers by creating comprehension questions, brainstorming vocabulary, generating dialogue, stories and successfully collaborates with YouTube or Ted talks
	• Diffit- Teacher friendly AI application to work smoothly with the needs of students.
	• Wordwall- Unlike other AI powered tools it is able to generate printable worksheet that can be used as home based exercise and assignments.
	• Grammarly: An effective AI platform helps teachers to correct the students tasks based on vocabulary, sentence structure,
	• Babbel- AI-driven language learning application focused on the listening skills with its speech recognition skills.
	• Rosetta Stone- AI-enabled speech recognition software helps teacher to identify the gaps in student's pronunciation and enable them to help with the right once.
	• Writesonic,Inkwriter, Jasper, Wordtune, Hyperwrite, Copyal- English writing tools for bring proficiencyin academic writing
	• Grammarly, ProWritingAid, Ginger- grammar & Vocabulary checker tools helps to self-editing and proofreading purpose
	• Synthesia, Lumen5, content samurai- original video generator from typed text
	• Podcastle, Descript, Audioburst- Original audio generator from typed text
	• There are other speech recognition based applications named Speechling, Tinycards, Voicetube, Elsaspeak which can be effective for language teachers as these can serve the visual impaired students as well.

Major Challenges faced by Language teachers for Artificial Intelligence

The researchers analyzed secondary sources to explore the main challenges faced by language teachers in AI-integrated classrooms. Most of the studies and documents showed that the hindrances lie in technological limitations and a lack of awareness regarding AI tools among the teachers (Yetkin, &Özer-Altınkaya, 2024). A research study finding elaborately showed some of the major drawbacks regarding AI inclusion in the classroom like- Limited reliability, limited technical infrastructure in the school, and inefficiency of AI in assessment and evaluation which may demotivate language teachers to adapt AI practice in the classroom (Celik, et.al, 2022). Some studies also defined that disadvantages include loss of personal touch, excessive dependence on technology, lack of emotional intelligence, and social connectivity (Rezunova et al., 2024). A hybrid model that skillfully maintains the balance between AI-driven personalizations with human

interaction was majorly recommended by most of the experts dealing with Artificial Intelligence in the educational domain. Some considerable challenges that researchers were able to point out are listed below along with the possible solutions that might be taken to overcome the drifts-

Table 4: Table showing the challenges of teachers and the required steps

Challenges faced by Teachers regarding AI	Required Steps
Lack of Technological knowledge	Teachers need to get professionally acknowledged and trained for proper technological integration in language teaching
Insufficiency of proper AI-literacy	Empowering teachers with AI-awareness and knowledge
Insufficient reliability in AI-generated content	Teachers should be well aware and able to cross-check the content and should be knowledgeable regarding plagiarism checking
Over dependency in technology	Teachers may stress on human interaction and contextualization rather on sole dependence on technology
Limited technological Infrastructure in academic institution	Academic institutes should be well structured and well equipped with Artificial intelligence tools and software and institutional leadership should be developed.
Lack of alignment of AI-generated content to specific learning context	Teachers should develop pedagogical awareness to enhance AI curated content that can be suited to specific learning context.
Lack of integration among professional regarding the usage of Artificial Intelligence	Professional development mechanism and capacity building program should be induced Artificial Intelligence training.
Lack of authenticity in AI-based assessment	Assessment should be well evaluated and authenticated by the expert's recommendation.
Ethical abruption	Creating a code of ethics regarding the usage of Artificial Intelligence to overcome the ethical concern regarding data privacy, content biasness etc.

The possible integration AI-integrated in regional education in Indian context

India is a rich storehouse of regional multi-cultural and ethnic groups. Indian language classrooms are usually comprised of teachers and students of different regional backgrounds. As a consequence, both teachers and students have to face language barriers, especially in acquiring English as a second language for their regional influences. Artificial Intelligence can revolutionize this issue with its innate capability of using large language model-based mechanisms in recognizing speech activity and instantly translating it into the targeted language. A Russia-based

research study revealed that exposure to Artificial Intelligence in language classrooms helped Russian students to adapt to English easily through participating in foreign speech community, getting the opportunity to read authentic material in the English language, and also develop same autonomy skills of English language students in learning Russian language (Sysoyev & Filatov, 2024). Artificial language has also immense potential risk as Indian students are becoming more inclined to adopt English as AI-integrated platforms are mainly English language integrated. There are no generative AI chatbots and platforms that can assist regional languages like Hindi, Bengali, Tamil, Telegu, etc. These regional background-based students face huge challenges as they lack regional language-based content in AI-language platforms and applications. Therefore, in the Indian subcontinent, a robust AI-based language model should be developed with datasets available for at least 28 official Indian languages that can deliver the purpose of students in language classrooms and be a game-changer for language teachers in the Indian context. A tentative conceptual framework can be drawn to show how Artificial Intelligence can be propagated to excel the multilingual classroom scenario of India.
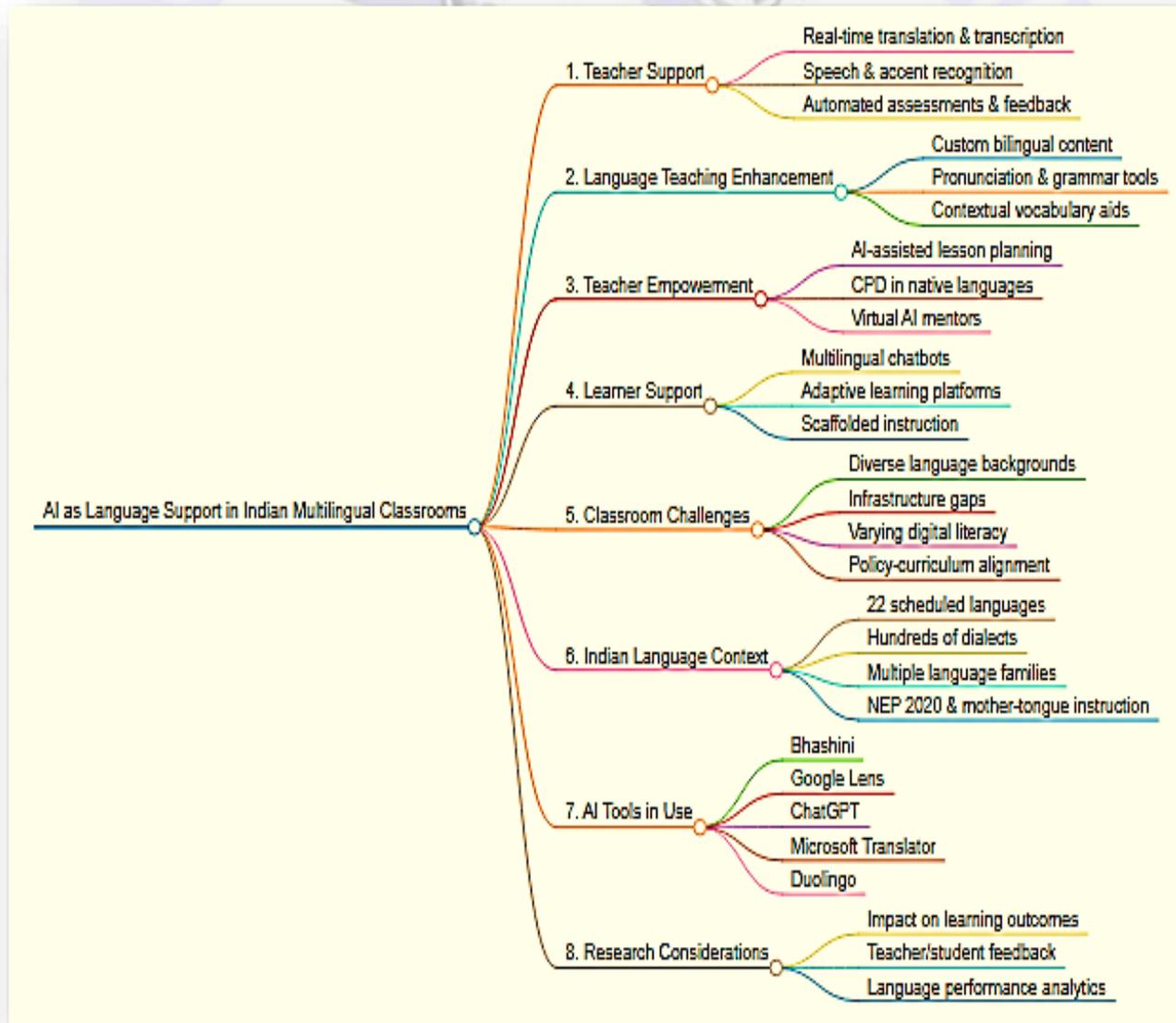

Figure 1: A conceptual framework of AI-intervention in language teaching

Discussion

Artificial Intelligence as 'trans-human' language teacher: Risks and Scopes

Artificial Intelligence is overreaching the ordinary human limit of acquiring and delivering numerous languages at a single point in time with its translation power. Language is a complex discipline that deals with the intersectionality of different dialects, pidgin, creole, and other regional influences. A human as a language teacher may be well equipped with a mother tongue, the target language, or any one or two more. But it's merely impossible for a human being to learn and translate in every possible language and dialect due to its overlaying morphological, syntactical, and lexical compositions. Henceforth, in any language learning classroom, there is an obvious invisible yet stringent barrier that exists between a teacher and students being parts of different language communities. In India, major K-12 schools run EFL (English as Foreign Language) classrooms where English is treated as a second or third language. India is super rich with its ample and affluent linguistic diversity having different dialects and regional ascendancies. An Indian Language teacher especially an English Language expert needs to be proficient enough to address all these issues with his or her utmost capabilities which might seem unattainable at some point in time. Research studies revealed that implementing Artificial intelligence into second or foreign language education holds tremendous promise in transforming language education through its sustained individualized support for language acquisition (Gao et al., 2024). As mentioned earlier in this study, major AI-language platforms and applications tend to promote translation services for education stakeholders who feel hesitant and challenged while dealing with switching languages according to their needs, especially in the Indian context. Henceforth, the artificial intelligence as a cyborg slowly turns into a 'trans-human' teacher having stupendous command over every possible linguistic challenge faced by a student. As a result, some experts condemn that this superhuman efficacy may surpass the needs of a human teacher by providing all the support students may long for like real-time personalized feedback on each component of a single language domain. It may be too effective for students at times but the detrimental consequences cannot be neglected. The over-reliance on Artificial Intelligence may cause a loss of cognitive-linguistics capacities of students and teachers like producing any academic or non-academic writing pieces that eventually lead to a lack of originality, stagnation of thought, and loss of critical thinking. The pedagogical skills of teachers also get affected by the intervention of Artificial Intelligence in almost every pedagogical domain like suggesting a proper pedagogical practice for teaching in the language classroom, designing lesson plans, and instructional designs, and leveraging huge content for students that turn them reluctant to adopt any innovation in their teaching experiences. Thus, content expertise, pedagogical skills, and teaching practices can be adversely impacted by the 'trans-human' aspects of Artificial Intelligence that might overpower human socio-emotional intelligence. The loss of human touch can turn a person 'artificial' but he or she can't be able to possess superhuman abilities like the machine could have. Teachers nowadays need to believe that artificial intelligence can be used as other technological support but not as a substitute for teachers and they should foster critical abilities to delve deeper into the knowledge insight that can be essential for student's exponential growth. Many researches revealed that students still value and respect teachers for their moral and personal guidance which acts as a guiding light for their career and overall development

Figure 2: A word-cloud showing the scopes and risks in AI-integrated language teaching competencies

Conclusion

The researcher in this paper tried to explain the current scenario of teaching language in the age of AI which is exciting at the same time is challenging. Though this paper has a limitation of using data from secondary sources, the elaborative findings of the study will surely guide the readers and other stakeholders towards the emerging trend of using Artificial Intelligence in language learning classrooms and its obvious consequences on teachers and as well as students. In spite of the gigantic range that AI-augmented learning structure can offer, it's still limited to the domain of English and other global languages without extending to the regional languages which itself is creating a barrier for students for Indian subcontinent students where regional languages have its own essence and influence over language learning. The researchers therefore tried to suggest a large language-based AI-augmented learning system that may incorporate the regional dataset to make the language classroom more inclusive, accessible, and eloquent in the future. Though artificial intelligence comprises all the capabilities beyond a normal human teacher, the researchers still authenticated humans as teachers to make the knowledge transaction meaning-making and lively. Humans having emotional cognizance are only influenced and captivated by another human touch which triggers and drives the innermost human aspiration which is core essential for students. Henceforth, it might be impossible to transmute the teaching-learning scenario with all the technical jargon and machinery support provided by any intelligent tutoring system. It may be used as a supportive actor; still, it may not be able to sideline a human teacher in the distant future which is a matter of heated discussion nowadays.

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