



ADAPTATION STRATEGIES OF HUMBOLDT UNIVERSITY BERLIN AND UNIVERSITY OF LEIPZIG TO THE CHALLENGES OF ARTIFICIAL INTELLIGENCE TECHNOLOGY IN THE CONTEXT OF LANGUAGE TEACHING

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Abstract—This research discusses the challenges and potential use of artificial intelligence (AI) technology in language teaching at Humboldt University Berlin and Leipzig University. The university recognizes the latest technological developments, such as rule-based machine translation, statistics, and neural networks. It faces challenges testing students' translation ability without using the latest technology. Despite this, translation errors still exist on platforms such as Google Translate and DeepL, suggesting that artificial intelligence still cannot keep pace with human intelligence. The use of AI in teaching and examinations at German universities is being legally regulated, focusing on developing a foundation for acceptable applicability and limits on using AI technology, especially about ethical issues. A survey at Humboldt University shows that most students have never used AI for exams, while the use of AI in language teaching at Leipzig University has grown. However, there is still an intensive debate on AI and teaching and learning. Some students also experience a decline in the quality of learning due to dependence on technology. This research provides essential insights on using AI technology in university language education. It emphasizes the need for precise legal regulation and attention to its impact on teaching-learning and learning quality.

Keywords— *Artificial Intelligence Technology, Legal Regulation and Ethics of AI Use*

I. INTRODUCTION

Rapid artificial intelligence (AI) technology developments have changed the education paradigm, including language teaching in university environments.[1] Humboldt University Berlin and Leipzig University, as well-known institutions of higher education in Germany, are no exception to the impact of this technological revolution. The increased ability of machines to understand and process human language has opened new doors in language teaching and learning methods. [2]

The introduction of artificial intelligence technology in the context of language teaching poses several challenges that higher education institutions need to overcome.[3] In terms of curriculum, the need for integrating artificial intelligence in language teaching materials, selecting appropriate tools and platforms, and adjusting evaluation

methods are critical aspects that must be considered. In addition, an effective adaptation strategy is needed so that lecturers and students can optimally utilize the potential of this technology.[4]

This study aims to deepen the understanding of adaptation strategies implemented by the Humboldt University of Berlin and the University of Leipzig in facing the challenges of artificial intelligence technology in the context of language teaching.[5] By extracting information about concrete steps taken by these institutions, this research is expected to provide guidance and insight for other higher education institutions facing similar transformations.

Through a deeper understanding of this adaptation strategy, this research can positively contribute to developing language teaching models responsive to technological changes. It can also open a space for discussion about the potential for combining artificial intelligence with humanitarian aspects in the context of higher education, especially in language learning in academic environments.[6]

II. METHODS

This research method uses a qualitative approach by conducting surveys and interviews with students and teaching staff at Humboldt Berlin and Leipzig University.[7] The survey was conducted to measure students' level of use of artificial intelligence (AI) in exams. In contrast, interviews were used to gain an in-depth understanding of experiences and views related to using AI technology in language teaching. In addition, this study also involves the analysis of documents related to policies on the use of AI technology in education in Germany, including legal regulations relating to the use of AI technology in teaching and examinations at universities.

This research method also includes literature analysis related to the use of AI technology in language education, as well as case studies on the experience of using AI technology in language teaching in various educational institutions.[8]

This research uses a holistic approach to understand the challenges and potential of using AI technology in language teaching at universities, as well as to identify the ethical and

legal intimidations associated with the use of AI technology in educational contexts. [9]

III. RESULT AND DISCUSSION.

As technology advances, artificial intelligence has played an increasingly significant role in various areas of life, including education. The use of IP in language learning offers great potential to improve the efficiency and effectiveness of the learning process, but it also presents a number of challenges that need to be understood and faced.[1] The study highlights the challenges and potential use of artificial intelligence (AI) technology in language teaching at Berlin's Humboldt University and Leipzig University. Berlin's Humboldt University and Leipzig University recognize that AI technologies, such as rule-based machine translation, statistics, and neural networks, have great potential in language teaching. However, they also face challenges in testing students' ability to translate without using the latest technology. Mrs. Esie in her speech that *"I have to make a confession: Everything I've said so far is written by AI, none of which I think about. In German, I just asked ChatGPT for a greeting and introduction to a speech in Indonesian on the topic "The use of IP in language teaching at universities", and within 2 seconds I got an acceptable text of 150 words, I only had to ask for a single message"*.

Despite the development of AI technology, translation errors still exist on platforms such as Google Translate and Deepl, showing that artificial intelligence still needs to catch up with human intelligence. It emphasizes that using AI technology in teaching and university exams requires precise legal arrangements. In Germany, the main focus in regulating the use of AI in education is on developing foundations for the acceptable application and limits of the use of AI technologies, especially concerning ethical issues.

A survey conducted at Humboldt University showed that most college students have never used AI for exams. However, the use of AI in language teaching at the University of Leipzig has grown, although there is still an intensive debate on AI and teaching-learning processes. In addition, some students also experience a decrease in the quality of learning due to dependence on technology. In regulating the use of AI technology in education, it is essential to consider its impact on the teaching-learning process and the quality of learning. The debate about ethics and the use of AI technology in education must be constantly considered to ensure that its application follows ethical principles and provides optimal student benefits.

Berlin's Humboldt University and Leipzig University have faced challenges testing students' translation abilities without using the latest technology. Although AI technology has excellent potential in language teaching, translation errors still exist on platforms such as Google Translate and Deepl, showing that artificial intelligence still cannot keep pace with human intelligence. Therefore, using AI technology in teaching and university examinations requires precise legal arrangements.

In facing the challenges of using AI technology in language teaching, Humboldt University Berlin and Leipzig University need to develop strategies that pay attention to ethics, quality of learning, and legal arrangements. This

aligns with efforts to create a foundation for acceptable applications and limitations of using AI technology, especially regarding ethical issues. Thus, using AI technology in language teaching in universities requires a careful and planned approach.

Efforts that can be made to overcome the challenges of using artificial intelligence (AI) in language teaching at Berlin's Humboldt University and Leipzig University require a holistic approach. First, universities need to develop clear policies related to the use of AI technology in education, including legal regulations relating to the use of AI technology in teaching and examinations at universities. This will help ensure that the application of AI technology is by ethical principles and does not compromise the quality of learning. In addition, universities also need to consider the ethical and legal implications related to the use of AI technology in educational contexts.

Second, universities need to increase awareness and training related to the use of AI technology for faculty and students. This training can ensure that AI technology in language teaching provides optimal benefits for students and does not reduce the quality of learning. In addition, awareness of the ethical and legal implications of using AI technology must also be increased.

Third, universities need to conduct further research related to the use of AI technology in language teaching, including an analysis of the experience of using AI technology in language teaching in various educational institutions. This research can help universities understand the challenges and potential uses of AI technology in language teaching and identify appropriate solutions to address emerging issues.

Fourth, universities need to consider collaboration with industry and related research institutions to develop AI technology solutions that suit the needs of language teaching in universities. This collaboration can help universities gain access to the latest AI technologies and support the development of innovative solutions. With a holistic approach that includes aspects of policy, training, and collaboration, universities can address challenges and harness the potential use of AI technology in university language teaching more effectively.[10][11]

IV. CONCLUSION

The study highlights the challenges and potential use of artificial intelligence (AI) technology in language teaching at Berlin's Humboldt University and Leipzig University. The university recognizes the latest technological developments, such as rule-based machine translation, statistics, and neural networks, and faces challenges in testing students' ability to translate without using the latest technology. Despite this, translation errors still exist on platforms such as Google Translate and Deepl, suggesting that artificial intelligence still cannot keep pace with human intelligence. The use of AI in teaching and examinations at German universities is being legally regulated, focusing on developing a foundation for acceptable applicability and limits on the use of AI technology, especially with regard to ethical issues.

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although there is still an intensive debate on the topic of AI and teaching and learning. Some students also experience a decline in the quality of learning due to dependence on technology. Thus, the conclusion of this paper shows that the use of AI technology in language teaching in universities requires a careful and planned approach to ensure that its application is in accordance with ethical principles, provides optimal benefits for students, and does not reduce the quality of learning. In addition, clear legal arrangements and attention to its impact on the teaching and learning process are also important in the use of AI technology in language education at universities.

REFERENCES

- [1] Muttaqin and D. Muhammad Arafa, "Implementasi AI Dalam Kehidupan," *Angew. Chemie Int. Ed.* 6(11), 951–952., vol. 3, no. 1, 2018.
- [2] B. M. P. Wardani and S. I. Samsul, "Kesesuaian Materi Buku Ajar Almany 3 Dengan Kurikulum 2013 Menggunakan Keterampilan Menulis Siswa Kelas XII Semester 1," *E-Journal Laterne*, vol. 10, no. 3, 2021.
- [3] S. L. Zahara, Z. U. Azkia, and M. M. Chusni, "Implementasi Teknologi Artificial Intelligence (AI) dalam Bidang Pendidikan.," *J. Penelit. Sains dan Pendidik.*, vol. 3, pp. 15–20, 2023, doi: 10.23971/jpsp.v3i1.4022.
- [4] F. Y. Liriwati, "Transformasi Kurikulum; Kecerdasan Buatan untuk Membangun Pendidikan yang Relevan di Masa Depan," *J. IHSAN J. Pendidik. Islam*, vol. 1, pp. 62–71, 2023, doi: 10.61104/ihsan.v1i2.61.
- [5] D. Carolina and M. Anwar, "PENGEMBANGAN TEORI LINGUSTIK DALAM PENGAJARAN BAHASA INDONESIA," *Univ. negeri jakarta*, 2022.
- [6] M. R. Pabubung, "Era Kecerdasan Buatan dan Dampak terhadap Martabat Manusia dalam Kajian Etis," *J. Filsafat Indones.*, vol. 6, pp. 66–74, 2023, doi: :10.23887/jfi.v6i1.49293.
- [7] L. J. Moleong, *Metodologi penelitian kualitatif*, 38th ed. Bandung: PT Remaja Rosdakarya, 2018. Accessed: Dec. 28, 2022. [Online]. Available: <https://opac.perpusnas.go.id/DetailOpac.aspx?id=1133305>
- [8] Suyuti, paulina M. E. Wahyuningrum, M. A. Jamil, M. L. Nawawi, D. Aditia, and N. G. A. L. Rusmayani, "Analisis Efektivitas Penggunaan Teknologi dalam Pendidikan Terhadap Peningkatan Hasil Belajar," *J. Educ.*, vol. 6, no. 1, 2023.
- [9] A. Purba and A. Saragih, "The role of Technology in Transforming Indonesian Language Education in the Digital Era," *All Fields Sci. J-LAS*, vol. 3, no. 3, pp. 43–52, 2023, doi: 10.58939/afosj-las.v3i3.619.
- [10] A. Ridha, "Penggunaan AI dalam penerjemahan mesin," *J. Linguist. Komputasi*, vol. 3, no. 2, pp. 48–58, 2011.
- [11] E. Untara and R. Setiawan, "Neuronal Machine Translation: Penggunaan AI dalam penerjemahan mesin.," *J. Teknol. Inf.*, vol. 5, no. 1, 2020.

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