THE ROLE OF ATTITUDES, SKILLS, AND DEMOGRAPHIC FACTORS IN USING GENERATIVE ARTIFICIAL INTELLIGENCE FOR ENGLISH LEARNING AT MAN 3 PEKANBARU

THESIS

UIN SUSKA RIAU

BY:

INDRI HIDAYATURRAHMI
SIN. 22390824780

POSTGRADUATE PROGRAME
STATE ISLAMIC UNIVERSITY OF SULTAN SYARIF KASIM RIAU
PEKANBARU
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KEMENTERIAN AGAMA RI
UNIVERSITAS ISLAM NEGERI SULTAN SYARIF KASIM RIAU
PASCASARJANA
كلية الدراسات العليا
THE GRADUATE PROGRAMME
Alamat : Jl. KH. Ahmad Dahlan No. 94 Pekanbaru 28129 PO.BOX. 1004
Phone & Facs, (0761) 858832, Site : pps.uin-suska.ac.id E-mail : pps@uin-suska.ac.id

LembaranPengesahan

Nama	:	Indri Hidayaturrahmi
NomorIndukMahasiswa	:	22390824780
GelarAkademik	:	M.Pd (Magister Pendidikan)
Judul	:	The Role Of Attitudes, Skills, And Demographic Factors In Using Generative Artificial Intelligence For English Learning At Man 3 Pekanbaru

TimPenguji:

Dr. Bukhori, S. Pd.I., M.Pd. .....
Penguji I/Ketua

Dr. Nur Aisyah Zulkifli, M.Pd .....
Penguji II/Sekretaris

Abdul Hadi, MA., Ph.D. .....
Penguji III

Dr. Riza Amelia, M.Pd. .....
Penguji IV

Tanggal Ujian/Pengesahan: 23 Juli 2025

PENGESAHAN PENGUJI

Kami yang bertanda tangan di bawah ini selaku Tim Penguji Tesis mengesahkan dan menyetujui bahwa Tesis yang berjudul: **The Role Of Attitudes, Skills; And Demographic Factors In Using Generative Artificial Intelligence For English Learning At Man 3 Pekanbaru,** yang ditulis oleh sdr:

Nama	: Indri Hidayaturrahmi
NIM	: 22390824780
Program Studi	: Tadris Bahasa Inggris S2

Telah diujikan dan diperbaiki sesuai dengan saran Tim Penguji Tesis Pascasarjana UIN Sultan Syarif Kasim Riau, pada tanggal 23 Juli 2025.

Penguji I,

Abdul Hadi, MA., Ph.D.
NIP. 19730118 200003 1 001

..... Tgl.: 28 Juli 2025

Penguji II,

Dr. Riza Amelia, M.Pd.
NIP. 19820415 200801 2 017

..... Tgl.: 28 Juli 2025

Mengetahui,
Ketua Program Studi Tadris Bahasa Inggris

Dr. Bukhori, S.Pd.I., M.Pd.
NIP. 197905122007101001

PENGESAHAN PEMBIMBING

Kami yang bertanda tangan di bawah ini selaku pembimbing Tesis mengesahkan dan menyetujui bahwa Tesis yang berjudul: **The Role Of Attitudes, Skills, And Demographic Factors In Using Generative Artificial Intelligence For English Learning At Man 3 Pekanbaru,** yang ditulis oleh sdr:

Nama : Indri Hidayaturrahmi
NIM : 22390824780
Program Studi : Tadris Bahasa Inggris

Telah diperbaiki sesuai dengan saran Tim Pembimbing Tesis Pascasarjana UIN Sultan Syarif Kasim Riau yang telah diujikan pada tanggal 23 Juli 2025.

Pembimbing I,

Muhammad Fauzan Ansyari, M.Sc., Ph,D .....
NIP. 198106012007101002 Tgl.: 28 Juli 2025

Pembimbing II

Dr. Dodi Settiawan, M.Pd .....
NIP. 198502012023211014 Tgl.: 28 Juli 2025

Mengetahui,
Ketua Program Studi Tadris Bahasa Inggris

Dr. Bukhori, S.Pd.I., M.Pd.
NIP. 197905122007101001

APPROVAL SHEET

The thesis entitled "The Role of Attitudes, Skills, and Demographic Factors in Using Generative Artificial Intelligence for English Learning at MAN 3 Pekanbaru" is written by:

Name	: INDRI HIDAYATURRAHMI
Student's ID Number	: 22390824780
Program of Study	: Master of English Language Education

is accepted and approved to be examined at the thesis examination of Postgraduate Program at State Islamic University of Sultan Syarif Kasim Riau.

Date: 21 July 2025
Supervisor I

Muhammad Fauzan Ansyari, M.Sc., Ph,D
NIP: 198106012007101002

Date: 21 July 2025
Supervisor II

Dr. Dodi Settiawan, M.Pd
NIP: 198502012023211014

Acknowledged by:
Head of English Language Education Study Program

Dr. Bukhori, S.Pd. I, M. Pd.
NIP. 197905122007101001

Muhammad Fauzan Ansyari, M.Sc.,Ph,D
The Lecturer of Postgraduate Program, State
Islamic University
Sultan Syarif Kasim Riau

OFFICIAL NOTE
Reference: The Thesis of Indri Hidayaturrahmi

To: Director of Postgraduate Program,
State Islamic University
Sultan Syarif Kasim Riau
Pekanbaru

Assalamu'alaikum Warahmatullahi Wabarakatuh

Having read, analyzed, corrected and revised the thesis with the title mentioned below written by:

Name	: INDRI HIDAYATURRAHMI
Student's ID Number	: 22390824780
Program of Study	: Master of English Language Education
Title	: The Role of Attitudes, Skills, and Demographic Factors in Using Generative Artificial Intelligence for English Learning At MAN 3 Pekanbaru

It is, therefore, approved to be examined and assessed in the final exam to be held by the Postgraduate Program of State Islamic University of Sultan Syarif Kasim.

Wassalamu'alaikum Warahmatullahi Wabarakatuh.

Pekanbaru, 21 July 2025
Supervisor I

Muhammad Fauzan Ansyari, M.Sc.,Ph,D
NIP: 198106012007101002

Dr. Dodi Settiawan, M.Pd
The Lecturer of Postgraduate Program,
State Islamic University
Sultan Syarif Kasim Riau

OFFICIAL NOTE
Reference: The Thesis of Indri Hidayaturrahmi

To: Director of Postgraduate Program,
State Islamic University
Sultan Syarif Kasim Riau
Pekanbaru

Assalamu'alaikum Warahmatullahi Wabarakatuh

Having read, analyzed, corrected and revised the thesis with the title mentioned below written by:

Name	: INDRI HIDAYATURRAHMI
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Wassalamu'alaikum Warahmatullahi Wabarakatuh.

Pekanbaru, 21 July 2025
Supervisor II

Dr. Dodi Settiawan, M.Pd
NIP: 198502012023211014

SURAT PERNYATAAN

Saya yang bertandatangan di bawah ini:

Nama	: Indri Hidayaturrahmi
NIM	: 22390824780
Tempat/Tgl. Lahir	: Sungai Tonang,23 September 1998
Fakultas	: Pascasarjana UIN Suska Riau
Prodi	: Magister Tadris Bahasa Inggris
Judul Skripsi	: The Role of Attitudes, Skills, and Demographic Factors in Using Generative Artificial Intelligence for English Learning at MAN 3 Pekanbaru.

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Pekanbaru, 29 Juli 2025
Indri Hidayaturrahmi

.....
NIM.22390824780

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4. Dr. Bukhori, S. Pd, M. Pd., the Head of English Education Master Program,State Islamic University of Sultan Syarif Kasim Riau.
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Pekanbaru, July 2025
Writer,

Indri Hidayaturrahmi
SRN. 22390824780

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PEDOMAN TRANSLITERASI

Pengalihan huruf Arab-Indonesia dalam naskah ini didasarkan atas Surat Keputusan Bersama (SKB) Menteri Agama dan Menteri Pendidikan dan Kebudayaan Republik Indonesia tanggal 22 Januari 1988, No. 158.1987 dan 0534.b/U/1987. Sebagaimana yang tertera dalam buku pedoman transliterasi bahasa Arab (A Guide to ArabicTransliteration). INIS Fellow 1992.

A. Konsonan

Arab	Latin	Arab	Latin
ا	A	ط	Th
ب	B	ظ	Zh
ت	T	ع	‘
ث	TS	غ	Gh
ج	J	ف	F
ح	H	ق	Q
خ	KH	ك	K
د	D	ل	L
ذ	DZ	م	M
ر	R	ن	N
ز	Z	و	W
س	S	ه	H
ش	SY	ء	‘
ص	SH	ي	Y
ض	DL		

B. Vokal Panjang dan Diftong

Setiap penulisan bahasa Arab dalam bentuk tulisan latin vocal *fathah* ditulis dengan "a", *kasrah* "i", dan *dommah* dengan "u" sedangkan bacaan panjang masing-masing ditulis dengan cara berikut:

Vokal (a) panjang = A misalnya قال menjadi *qala*

Vokal (i) panjang = I misalnya قيل menjadi *qila*

Vokal (u) panjang = U misalnya دون menjadi *duna*

Khusus untuk bacaan *ya'* nisbat, maka tidak boleh diganti dengan "*i*", melainkan tetap ditulis dengan "*iy*" agar dapat menggambarkan *ya'* nisbat diakhirnya. Begitu juga untuk suara diftong *wawu* dan *ya'* setelah fathah ditulis dengan "*aw*" dan "*ay*".

Diftong (aw) = و misalnya menjadi قول *qawlun*

Diftong (ay) = ي misalnya menjadi خير *khayrun*

C. Ta'Marbuthah

"Ta" marbûthah ditransliterasikan dengan "t" jika berada ditengah kalimat, tetapi apabila Ta" marbûthah tersebut berada di akhir kalimat, maka ditransliterasikan dengan menggunankan "h" misalnya الرسالة للمدرسه menjadi alrisalat li al-mudarrisah, atau apabila berada di tengah-tengah kalimat yang terdiri dari susunan mudlaf dan mudlafilayh, maka ditransliterasikan dengan kalimat berikutnya, misalnya في رحمة الله menjadi fi rahmatillâh.

D. Kata Sandang dan Lafdh al-jalâlah

Kata sandang berupa "al" (ال) ditulis dengan huruf kecil, kecuali terletak di awal kalimat, sedangkan "al" dalam lafadh jalâlah yang berada di tengah-tengah kalimat yang disandarkan *(idhafah*) maka dihilangkan.

ABSTRACT

Indri Hidayaturrahmi (2025): The Role of Attitudes, Skills, and Demographic Factors in Using Generative Artificial Intelligence For English Learning At Man 3 Pekanbaru

This study explores the role of attitudes, skills, and demographic factors in the use of Generative Artificial Intelligence (AI) for English language learning among students at MAN 3 Pekanbaru. Employing a quantitative survey design, data were collected through a structured questionnaire distributed to 417 students. The instrument consisted of 53 items measuring attitudes, skills, frequency of use, and demographic characteristics. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4 to test measurement validity and structural relationships among variables. The findings revealed that both attitudes toward AI ($\beta = 0.347$, $p < 0.001$) and skills in using AI ($\beta = 0.232$, $p < 0.001$) had a significant positive effect on the frequency of AI use. Gender also significantly influenced frequency ($\beta = -0.205$, $p < 0.001$) and skills ($\beta = -0.167$, $p = 0.001$), indicating disparities between male and female students. Additionally, training experience had a significant impact on AI skills ($\beta = 0.168$, $p < 0.001$), and indirectly influenced frequency of use through skills ($\beta = 0.039$, $p = 0.014$). In contrast, age and grade did not show significant effects on the main constructs. Measurement results demonstrated good reliability and validity: all constructs showed Composite Reliability > 0.90 and Average Variance Extracted (AVE) > 0.60, with outer loadings > 0.70 for retained items. These findings suggest that fostering positive attitudes and improving students' technical skills are key to enhancing the effective use of Generative AI in language learning. The study concludes that demographic factors like training and gender have notable influence, while age and grade play less significant role.

Keywords: Generative AI, English learning, student attitudes, demographic factors, survey design.

ABSTRAK

Indri Hidayaturrahmi (2025): Peran Sikap, Keterampilan, dan Faktor Demografis dalam Penggunaan Kecerdasan Buatan Generatif untuk Pembelajaran Bahasa Inggris di MAN 3 Pekanbaru

Penelitian ini mengkaji peran sikap, keterampilan, dan faktor demografis dalam penggunaan Kecerdasan Buatan Generatif (AI) untuk pembelajaran bahasa Inggris di kalangan siswa MAN 3 Pekanbaru. Dengan menggunakan desain survei kuantitatif, data dikumpulkan melalui kuesioner terstruktur yang dibagikan kepada 417 siswa. Instrumen penelitian terdiri atas 53 butir pernyataan yang mengukur sikap, keterampilan, frekuensi penggunaan, dan karakteristik demografis. Data dianalisis menggunakan metode Partial Least Squares Structural Equation Modeling (PLS-SEM) melalui perangkat lunak SmartPLS 4 untuk menguji validitas instrumen dan hubungan struktural antarvariabel. Hasil penelitian menunjukkan bahwa sikap terhadap AI ($\beta = 0{,}347$, $p < 0{,}001$) dan keterampilan dalam menggunakan AI ($\beta = 0{,}232$, $p < 0{,}001$) memiliki pengaruh positif yang signifikan terhadap frekuensi penggunaan AI. Jenis kelamin juga berpengaruh signifikan terhadap frekuensi penggunaan ($\beta = -0{,}205$, $p < 0{,}001$) dan keterampilan ($\beta = -0{,}167$, $p = 0{,}001$), yang mengindikasikan adanya perbedaan antara siswa laki-laki dan perempuan. Selain itu, pengalaman pelatihan memiliki dampak signifikan terhadap keterampilan AI ($\beta = 0{,}168$, $p < 0{,}001$) dan secara tidak langsung memengaruhi frekuensi penggunaan melalui keterampilan ($\beta = 0{,}039$, $p = 0{,}014$). Sebaliknya, usia dan tingkat kelas tidak menunjukkan pengaruh yang signifikan terhadap konstruk utama. Pengujian pengukuran menunjukkan reliabilitas dan validitas yang baik: seluruh konstruk memiliki nilai Composite Reliability di atas 0,90 dan Average Variance Extracted (AVE) di atas 0,60, dengan nilai outer loadings di atas 0,70 untuk item yang dipertahankan. Temuan ini menyiratkan bahwa membangun sikap positif serta meningkatkan keterampilan teknis siswa merupakan kunci dalam mendorong penggunaan AI generatif secara efektif dalam pembelajaran bahasa. Penelitian ini menyimpulkan bahwa faktor demografis seperti pengalaman pelatihan dan jenis kelamin berpengaruh nyata, sedangkan usia dan tingkat kelas memiliki peran yang kurang signifikan.

Kata Kunci: Strategi Metakognitif, Keterampilan Berpikir Kritis, Pemahaman Membaca.

خلاصة

إندري هداية الرحمي :(**2025**) دور المواقف والمهارات والعوامل الديموغرافية في استخدام الذكاء الاصطناعي التوليدي لتعلّم اللغة الإنجليزية في المدرسة الثانوية الإسلامية الحكومية الثالث بيكانبارو يتناول هذا البحث دور المواقف، المهارات، والعوامل الديموغرافية في استخدام الذكاء الاصطناعي التوليدي (AI) في تعلم اللغة الإنجليزية بين طلاب المدرسة الثانوية الإسلامية الحكومية الثالث في بيكانبارو .باستخدام تصميم مسحي كمي، جُمعت البيانات من خلال استبيان منظم وُزع على ٤١٧ طالبًا. يتكون أداة البحث من ٥٣ بندًا لقياس المواقف، المهارات، وتكرار الاستخدام، بالإضافة إلى الخصائص الديموغرافية. تم تحليل البيانات باستخدام طريقة نمذجة المعادلات الهيكلية بطريقة المربعات الصغرى الجزئية (PLS-SEM) عبر برنامج SmartPLS 4لاختبار صلاحية الأداة والعلاقات الهيكلية بين المتغيرات .أظهرت نتائج الدراسة أن الموقف من الذكاء الاصطناعي($\beta = 0.347$ ، $p < 0.001$)والمهارة في استخدامه($\beta = 0.232$ ، $p < 0.001$)لهما تأثير إيجابي كبير على تكرار استخدام الذكاء الاصطناعي. كما أن الجنس له تأثير كبير على تكرار الاستخدام ($\beta = -0.205$، $p < 0.001$)وعلى المهارات($\beta = -0.167$ ، $p = 0.001$)، مما يشير إلى وجود فرق بين الطلاب الذكور والإناث. بالإضافة إلى ذلك، فإن الخبرة التدريبية تؤثر بشكل كبير على مهارات استخدام الذكاء الاصطناعي($\beta = 0.168$ ، $p < 0.001$)وتؤثر بشكل غير مباشر على تكرار الاستخدام من خلال المهارات($\beta = 0.039$ ، $p = 0.014$). في المقابل، لم تُظهر كل من العمر والمستوى الدراسي تأثيرًا ملحوظًا على المتغيرات الرئيسة .أظهرت اختبارات القياس موثوقية وصلاحية جيدة؛ حيث أن جميع المتغيرات لديها معامل موثوقية مركب أعلى من ٠.٩٠، ومتوسط التباين المستخرج (AVE) أعلى من ٠.٦٠، مع قيم تحميل خارجية (outer loadings)تفوق ٠.٧٠ للبنود المعتمدة. وتشير هذه النتائج إلى أن بناء مواقف إيجابية وتعزيز المهارات التقنية لدى الطلاب يُعدّ أمرًا أساسيًا لتعزيز الاستخدام الفعّال للذكاء الاصطناعي التوليدي في تعلّم اللغات. وتخلص الدراسة إلى أن العوامل الديموغرافية مثل الخبرة التدريبية والجنس لها تأثير واضح، بينما العمر والمستوى الدراسي يلعبان دورًا أقل أهمية.

الكلمات المفتاحية :الاستراتيجيات ما بعد المعرفية، مهارات التفكير النقدي، فهم القراءة.

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CHAPTER 1

INTODUCTION

A. Background of the Problem

In recent years, the emergence of generative artificial intelligence (AI) tools has transformed the way students interact with learning materials and complete academic tasks. Tools such as ChatGPT, Google Gemini, QuillBot, and Grammarly are becoming increasingly accessible and are frequently used to generate summaries, rewrite text, translate, or assist with essay writing. These technologies offer convenience, speed, and efficiency that appeal to today's learners, especially in an era where digital fluency is becoming a key component of academic success[1]. Generative AI is was seen not only as a supplementary tool but as an active participant in students' daily learning experiences. The rapid shift in how student's access and process information has sparked a wave of interest across educational communities.

The popularity of AI among students has led to both optimism and concern. On the one hand, many view AI as a powerful learning assistant that can improve productivity and help

[1] Rahman Peliza. (2024). Penerapan Teknologi Artificial Intelligence (Ai) Terhadap Peningkatan Efektivitas Pembelajaran Mahasiswa. Prosiding Fakultas Ushulludin Adab Dan Dakwah; Vol. 2 No. 1 (2024): Prosiding Fakultas Ushuluddin Adab Dan Dakwah; 82-95. https://ejournal.iainkerinci.ac.id/index.php/pik/article/view/3774

students work more independently[2]. On the other hand, questions were raised about plagiarism, over-reliance on technology, and the potential erosion of critical thinking. In some educational settings, the line between responsible use and misuse of AI tools was still blurred, and students might not have been fully aware of ethical boundaries. These uncertainties highlighted the need for deeper insight into how students understood, perceived, and applied generative AI tools in their academic work. More importantly, this growing trend needed to be studied in diverse educational settings, including secondary and religious schools.

In the context of Indonesian madrasahs, particularly MAN 3 Pekanbaru, such trends were not yet widely documented. As institutions rooted in both general and Islamic education, madrasahs faced a unique challenge in adapting to technological change while preserving academic integrity and value-based education. With limited institutional policies and varying levels of digital literacy, students were often left to explore and use AI tools on their own. Understanding their behaviors, motivations, and perceptions became essential in crafting appropriate educational responses.[3]. In

[2] M'kulama, A., & Mwiinga, T. (2016). The use of participatory technologies in teaching and learning in higher education: a case study of two institutions. http://dspace.unza.zm/handle/123456789/6022

[3] Lundgren, E., & Eklöf, H. (2023). Questionnaire-taking motivation : Using response times to assess motivation to optimize on the PISA 2018 student questionnaire. http://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-210232

this research, the use of generative AI by students was examined as a timely and relevant issue, offering insight into how modern digital tools intersect with traditional learning environments.

The increasing presence of generative AI tools in classrooms has introduced a new dynamic into the learning process—one that requires structured observation and careful investigation[4]. While many global studies have captured this trend in universities, little is known about its development in Indonesian secondary schools, particularly those with a religious background like MAN. Students may use these tools for academic support, but how they use them, why they use them, and how they feel about them remain unclear. At the same time, institutions may not have a clear response or policy regarding the appropriate use of AI in the learning process. In this research, those gaps are explored through a focused lens on MAN 3 Pekanbaru.

In this research, three major aspects were investigated: students' usage patterns of generative AI tools, their attitudes toward these tools, and their perceptions of how their school is responding to the growing use of AI in education. The first aspect looks at how

[4] Weng Lim, Asanka Gunasekara, Jessica Pallant, Jason Pallant, & Ekaterina Pechenkina. (2023). Generative AI and the future of education: Ragnarök or reformation? A paradoxical perspective from management educators. https://figshare.com/articles/journal_contribution/Generative_AI_and_the_future_of_education_Ragnar_k_or_reformation_A_paradoxical_perspective_from_management_educators/27573039

often and for what purposes students use AI—whether to understand lessons, complete assignments, or generate ideas. The second aspect explores their mindset—whether they see AI as a helpful partner, a risky shortcut, or something in between. The third aspect examines institutional support—whether students feel their school encourages, restricts, or remains neutral about AI use. These elements together build a comprehensive understanding of how AI is positioned in students' educational experiences.

The method used in this study is descriptive quantitative, relying on a structured survey distributed to students at MAN 3 Pekanbaru. By analyzing patterns from their responses, the research aimed to present an objective view of student engagement with AI. The outcomes were expected to inform educators, administrators, and policymakers about the realities of AI use in the classroom. nstead of relying on assumptions or extreme narratives, in this research, the actual voices and behaviors of students were brought to the forefront. The ultimate goal was to provide data that could guide schools in developing clearer, more responsive, and student-centered policies on AI usage.

Research on generative AI in education has largely focused on university students, especially in Western countries where AI tools are more readily available and accepted. Studies such as the

HEPI/Kortext Student AI Survey (2024–2025) have shown that student adoption of AI tools for learning and assessment is increasing rapidly. These surveys reveal that students often use AI to improve writing, brainstorm research topics, and better understand difficult concepts. At the same time, concerns about academic honesty, bias in AI outputs, and unequal access remain prevalent. While these studies offer foundational knowledge, they do not fully capture the student experience in non-Western, faith-based, or secondary education settings.

In Indonesia, research on AI use in schools is still relatively new and fragmented. A few studies have discussed digital literacy and the integration of educational technology in schools, including madrasahs. However, these studies tend to focus on general ICT use rather than specifically on generative AI tools. Additionally, the cultural and religious contexts of madrasahs create different expectations and constraints around the use of technology that are rarely addressed in mainstream literature. Without context-specific studies, it is difficult to understand how generative AI is perceived and used by students in such institutions.

To address this gap, in this research, the aimed is to provide empirical evidence from students at a public Islamic senior high school in Indonesia. By focusing on MAN 3 Pekanbaru, this

research added a localized perspective that has been largely absent from the global discussion. Rather than generalizing student behavior based on university contexts or Western experiences, in this research, the goal was to examine how generative AI tools are understood and used by high school students in a distinct educational and cultural environment. This contributes to a more diverse and inclusive body of literature on AI in education.

In this research, one key contribution was the provision of new data on student use of generative AI at the secondary level, which is currently underrepresented in academic studies. Most existing research has centered on college students or adult learners, ignoring the growing influence of AI among younger students. By offering survey data from a high school population, in this research, a new layer of understanding is added to the ongoing discourse on AI in education. The findings will highlighted not only how frequently students use AI, but also the specific tasks they rely on it for, whether in English language learning, assignment completion, or idea generation.

A second contribution of this research lies in its exploration of student attitudes. This includes how students feel about the helpfulness, risks, and ethical considerations of AI use. Such attitudes are often shaped by peer influence, school culture, and

students' own experiences with technology. Understanding these perceptions was essential for any school or policymaker aiming to promote responsible AI use. To address this gap, in this research, student attitudes were analyzed quantitatively to provide a reliable picture of the emotional and psychological dimensions of student-AI interaction.

Finally, in this research, attention is given to the perceived institutional response. Students are asked whether they feel supported or restricted by their school when using AI, and whether their teachers are equipped to guide them. This aspect has often been overlooked, even though institutional readiness is crucial for the safe and productive use of AI in classrooms. Schools must not only create rules, but also foster understanding and literacy among both students and teachers. To address this gap, in this research, the findings are intended to serve as a foundation for developing practical recommendations for school-level policy and teacher training related to generative AI.

The increasing use of generative AI among students brings several complex challenges to the education system. One of the primary concerns is the lack of clear ethical guidelines regarding when and how these tools should be used in academic settings. Many students may unknowingly rely too heavily on AI to complete their

assignments, potentially reducing opportunities to develop original thinking skills. Additionally, the boundaries between assistance and academic dishonesty are often unclear, especially when students copy AI-generated responses without modification. This ambiguity demands attention from educators and policymakers to provide specific, contextual rules for AI use.

Another pressing issue is the digital divide that affects equal access to generative AI tools. Students from urban areas with better infrastructure may have more opportunities to use tools like ChatGPT, while those in rural or underserved regions are left behind. The cost of internet, limited access to devices, and lack of digital literacy become barriers for students to explore AI effectively. This inequality can widen learning gaps, especially when AI is used to enhance performance in subjects like English[5]. Without equitable access and support, generative AI could unintentionally reinforce educational disparities among students.

Lastly, many educational institutions, including Islamic senior high schools like MAN 3 Pekanbaru, are still unprepared to respond to the rapid rise of generative AI. Teachers often lack the training or confidence to incorporate AI responsibly into teaching strategies. Some schools have chosen to discourage or even ban its

[5] Duarte, R., Correia, F., Arriaga, P., & Paiva, A. (2023). AI trust: Can explainable AI enhance warranted trust? http://hdl.handle.net/10071/29696

use entirely, fearing cheating or misinformation. However, students are already using AI independently, highlighting a mismatch between institutional readiness and student behavior. This misalignment creates confusion and calls for a more balanced, well-informed policy that supports responsible AI use in line with 21st-century skills.

The use of generative artificial intelligence (AI) has become a prominent topic in global education, influencing how students learn, write, and interact with information. Tools like ChatGPT, Grammarly, and QuillBot are increasingly being adopted by students for summarizing content, rewriting texts, generating ideas, and even completing assignments. Despite this shift, limited research exists at the secondary education level, especially within Islamic-based institutions in Indonesia. Most studies have focused on university contexts in developed countries, leaving a knowledge gap in understanding how younger students engage with AI tools. This research sought to address that gap by focusing on students from MAN 3 Pekanbaru.

To explore these emerging trends at the secondary level in a faith-based educational context, this study employed a structured survey instrument. The questionnaire was adapted from the

HEPI/Kortext Student AI Survey[6], which was originally developed to examine university students' usage, attitudes, and experiences with generative AI tools in the UK. By contextualizing this instrument for students at MAN 3 Pekanbaru, this research contributes a localized perspective to a growing global conversation on responsible and effective AI use in education[7].

This thesis title "The Role of Attitudes, Skills, and Demographic Factors in Using Generative Artificial Intelligence for English Learning at MAN 3 Pekanbaru" is chosen because it clearly reflects the focus, scope, and population of the study. The term "Student Survey" emphasizes the quantitative, descriptive approach based on real student responses. "Generative AI" narrows the study to tools that produce original content (text, summaries, explanations), rather than general digital tools. Including "MAN 3 Pekanbaru" specifies the research site, making the study contextually rich and relevant for local educational settings. This title is concise yet descriptive, helping readers immediately understand what the study investigates.

Choosing this title also supports the growing need for localized educational research on AI. As AI tools become more

[6] HEPI & Kortext. (2024). Student attitudes toward generative AI tools in UK universities. London: HEPI & Kortext.
[7] HEPI & Kortext. (2024). Perceived usefulness of GenAI in writing. London: HEPI & Kortext.

accessible, there is urgency to explore not just usage patterns, but also students' attitudes and perceptions in diverse school systems. MAN 3 Pekanbaru represents a public Islamic senior high school, which brings unique cultural and pedagogical contexts that are often overlooked in global AI research. Therefore, this study contributes to broadening perspectives in AI-related educational research while giving voice to student experiences in Indonesian madrasah environments. The title aligns perfectly with these goals by being straightforward, specific, and reflective of the study's true focus.

Therefore, in this study, the researcher is interested in conducting a survey to explore how students at MAN 3 Pekanbaru use generative artificial intelligence (AI) tools in their learning. Generative AI, including tools such as ChatGPT, QuillBot, and Grammarly, has become increasingly popular among students for tasks such as rewriting, summarizing, and generating written content. However, the extent of its usage, students' attitudes, and their perception of institutional response remain underexplored, especially in Islamic senior high school contexts. This research is designed as a descriptive quantitative study using a student questionnaire to gather data. Therefore, this research is conducted under the title: "The Role of Attitudes, Skills, and Demographic Factors in Using Generative Artificial Intelligence for English Learning at MAN 3 Pekanbaru."

B. Problem of the Research

1. Identification of the Problem

Based on the background above, the problems are:

a. Some of the students use AI tools without knowing how to use them properly.
b. Some of the students are unsure about school rules on AI use.
c. Some of the students rely on AI without thinking critically.
d. Some of the students lack access or digital skills.
e. Some of the students do not get enough support from the school.

2. Limitation of the Problem

To maintain focus, this research is limited to a survey on the use of generative AI by students at MAN 3 Pekanbaru. It explores three aspects: how students use AI, what they think about it, and how they perceive the school's response. The study does not assess academic achievement, learning outcomes, or teaching effectiveness. All data are based on student responses through questionnaires and do not involve interviews, observations, or experiments. This research also does not compare different AI tools in depth.

3. Formulation of the Problem

Based on the background and identification of the problem, the research is formulated through the following questions:

a. How frequently do students at MAN 3 Pekanbaru use Generative AI in English language learning?
b. What is the relationship between students' attitudes toward generative AI and skills in using Generative AI as well as their frequency of AI use?
c. To what extent do demographic factors (age, gender, grade, and training experience) influence the frequency of AI use among students?

C. Objective and Significance of the Study

1. Objective of the Study

The objective of this study is to describe and analyze the use of Generative Artificial Intelligence (AI) tools in English language learning among students at MAN 3 Pekanbaru. This study aimed to measure the frequency of students' use of Generative AI, to determine the relationship between students' attitudes and skills in using AI with their frequency of use, and to examine how demographic factors such as age, gender, grade level, and training experience influenced the frequency of AI use.

2. Significance of the Study

This research is expected to contribute to both theoretical and practical knowledge in education, especially regarding the use of generative artificial intelligence (AI) tools. The results of this

study can offer valuable insights into how students at MAN 3 Pekanbaru use generative AI in their learning, how they perceive its benefits and risks, and how they view the school's response to this growing trend. Several parties are expected to benefit from this research:

1. **Teachers**

   This research can help teachers understand students' AI usage habits and attitudes. It may encourage teachers to offer clearer guidance and ethical boundaries for using generative AI, ensuring students use these tools responsibly to support their learning, especially in English and writing-related tasks.

2. **Students**

   Students may gain a better understanding of how to use AI tools wisely not only for completing assignments but also for enhancing learning outcomes. The results of this study may help raise awareness among students about the importance of digital literacy, critical thinking, and ethical AI use in their educational experience.

3. **School**

   For school administrators, this study provides evidence-based insights on how students perceive institutional responses to

AI. It can support the development of more balanced, student-centered policies on AI integration that foster both innovation and academic integrity within the madrasah environment.

4. Researchers

This research served as a foundational resource for future studies that aimed to explore generative AI use among high school students. It opened opportunities for more in-depth investigations, particularly in Indonesian secondary education settings, and contributed to the growing body of literature on AI in schools.

D. Definition of the Term

To ensure clarity and consistency in this study, several key terms are defined based on their relevance to the context and objectives of the research:

1. Generative Artificial Intelligence (Generative AI)

Generative AI refers to artificial intelligence tools that are capable of producing original content, such as text, summaries, or written responses. In this study, the term includes widely used platforms like ChatGPT, Grammarly, QuillBot, and similar applications that assist students in writing, translating, or refining their academic work.

2. Student Use

Student use describes the ways in which students at MAN 3 Pekanbaru engage with generative AI tools during their learning. This includes the frequency of use, specific academic tasks performed using AI, and the level of independence with which students utilize these tools in completing assignments or understanding material.

3. Student Attitude

Student attitude refers to students' perspectives, preferences, and feelings toward the use of generative AI in education. This includes whether they perceive these tools as helpful, ethical, necessary, or potentially harmful in the context of their academic development.

4. Survey

Survey in this research refers to the structured questionnaire distributed to students to gather quantitative data. The instrument focuses on exploring patterns of AI usage, student attitudes, and perceptions related to the institutional environment regarding generative AI use in learning.

CHAPTER II

REVIEW OF RELATED LITERATURE

In this chapter, the researcher explores relevant theories and information about the variables and topics that are related to the study's focus. Topics covered include definition of writing, the writing process, writing rubrics, writing assistance, BlackBox AI, and students' writing achievement.

A. THEORETICAL FRAMEWORK

1. Definition of Generative Artificial Intelligence (AI)

Generative Artificial Intelligence (GenAI) refers to a class of advanced machine learning technologies capable of generating new content—text, audio, images, code, or videos—based on patterns learned from vast datasets. It is built upon deep learning and large language models (LLMs), which allow it to predict and generate outputs that resemble human language and reasoning. According to Bommasani et al[8], GenAI systems such as GPT (Generative Pre-trained Transformer) function through unsupervised training over massive language corpora, enabling them to generate fluent, contextually appropriate, and semantically relevant texts. These capabilities have found increasing application in education,

[8] Bommasani, R., Hudson, D. A., Adeli, E., Altman, R., Arora, S., von Arx, S., ... & Liang, P. (2021). On the opportunities and risks of foundation models. Stanford, CA: Stanford Institute for Human-Centered Artificial Intelligence. https://doi.org/10.48550/arXiv.2108.07258

especially in language learning contexts, where writing, summarizing, translation, and content generation are common tasks. The accessibility of GenAI through tools like ChatGPT, Google Gemini, QuillBot, and Grammarly has revolutionized the digital learning landscape by providing students with autonomous learning assistants.

In the context of English language learning, GenAI provides not only linguistic accuracy but also personalized feedback and adaptive language suggestions. Generative AI can function as a "cognitive partner" that complements learners' capacities by scaffolding their expression and guiding their output in real-time[9]. Unlike conventional search engines, GenAI engages in dynamic interactions, allowing students to co-construct ideas and texts in ways that mimic tutoring. This interactivity bridges the gap between student autonomy and expert guidance. Therefore, GenAI is not simply a tool for automation but a platform for cognitive engagement and metacognitive development, aligning closely with Oxford's language learning strategies framework[10].

However, despite its potential, GenAI is not without risks.

[9] Chiu, T. K. F. (2023). Understanding the role of Generative AI in personalized learning: GenAI as a cognitive partner in education. Educational Technology Research and Development, 71(3), 423–441. https://doi.org/10.1007/s11423-023-10257-1

[10] Oxford, R. L. (1990). Language learning strategies: What every teacher should know. New York, NY: Newbury House Publishers.

One of the critical concerns is the phenomenon of "AI hallucinations"—outputs that are syntactically correct but factually inaccurate or misleading[11]. Such occurrences highlight the limitations of current GenAI systems, which, although powerful, do not "understand" content in a human sense. Students without proper digital literacy may internalize such misinformation, leading to shallow learning or conceptual confusion[12]. Moreover, overdependence on GenAI can undermine students' critical thinking, creativity, and original composition skills[13]. These limitations emphasize the importance of embedding GenAI within pedagogical frameworks that promote ethical and critical use.

In Islamic educational institutions such as MAN 3 Pekanbaru, the integration of GenAI must be contextualized within cultural and ethical parameters. The dual role of madrasahs—as centers of academic excellence and religious value formation—means that technologies like GenAI must align with institutional norms and moral guidelines. The successful adoption of AI in education depends not only on technical readiness but also on cultural acceptance[14]. Students may be cautious in adopting tools

[11] "AI hallucinations"—outputs that are syntactically correct but factually inaccurate or misleading (Marcus & Davis, 2020).
[12] Jia, J. (2022). EFL learners' interaction with AI tools. Hong Kong: Asia-Pacific Computing.
[13] Dahal, N. (2023). Emerging risks and promises of generative AI in education. Kathmandu: Himalayan Academic Press.
[14] Sharadgah, T., & Sa'di, R. (2022). Ethics in Islamic education technology. Amman: Middle East University Press.

that they perceive as conflicting with religious values or institutional expectations. Hence, understanding student attitudes and the school's stance on GenAI use is critical in shaping effective implementation strategies.

Digital literacy, defined as the ability to use digital tools effectively and responsibly, becomes the cornerstone in navigating GenAI's complexities. In 21st-century skills require learners to evaluate, synthesize, and apply digital information with ethical judgment[15]. In this context, GenAI literacy includes not only technical proficiency but also awareness of biases, transparency in content origin, and respect for intellectual property. For students at MAN 3 Pekanbaru, this means learning not just how to use AI tools, but when and why to use them in ways that enhance rather than replace learning. This distinction becomes crucial in distinguishing between assisted learning and academic dishonesty.

From a theoretical standpoint, the Technology Acceptance Model (TAM) offers a useful lens for understanding students' adoption of GenAI. TAM posits that two key factors—Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)—determine users' behavioral intention to adopt technology[16]. In educational

[15] UNESCO. (2022). Framework for AI ethics in schools. Paris: UNESCO.
[16] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340.

contexts, these perceptions translate to beliefs about whether GenAI improves academic performance and whether it is user-friendly. When students perceive GenAI as both beneficial and easy to use, they are more likely to engage with it in their learning. These constructs are further influenced by external variables such as demographic factors (age, gender and training) and internal factors like attitudes and prior experience[17].

Furthermore, GenAI's impact is not limited to the learning process but extends to curriculum design and pedagogical decision-making. Educational institutions must consider how to scaffold GenAI use across different levels of proficiency and discipline. AI can support formative assessment, personalized learning, and student engagement if integrated meaningfully into curricula[18]. In language classrooms, GenAI can be incorporated as part of writing workshops, speaking simulations, and vocabulary expansion exercises. However, such integration requires teachers to be trained not only in technical use but also in instructional design, so as to align AI capabilities with learning outcomes.

At the policy level, global trends show a growing demand for regulatory frameworks that ensure the safe, ethical, and equitable

[17] Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. Management Science, 46(2), 186–204.
[18] Luckin, R., et al. (2022). Role of human judgment in AI learning. London: UCL Press.

use of AI in education. The need for transparency, human oversight, and learner protection in the use of AI systems in schools.[19] These principles are also echoed in Indonesian digital transformation strategies, where technology is seen as both an enabler and a disruptor (Kemendikbudristek, 2021). As such, madrasahs like MAN 3 Pekanbaru must develop institutional policies that address the opportunities and risks of GenAI. These may include teacher training, digital citizenship programs, and school-wide AI guidelines to ensure consistent, ethical use.

Another important dimension is the psychological and motivational influence of GenAI tools. Learners are more engaged when they experience autonomy, competence, and relatedness. GenAI can support autonomy by allowing students to explore topics independently and formulate their own responses[20]. It supports competence by providing immediate, adaptive feedback. However, without teacher mediation, it may fail to foster genuine relatedness or collaborative learning experiences. Therefore, balancing GenAI use with social and emotional aspects of learning remains critical for holistic student development.

[19] European Commission. (2021). Proposal for a regulation laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain Union legislative acts. Brussels: European Commission

[20] Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum Press.

Finally, the localized investigation of GenAI at MAN 3 Pekanbaru offers insights into how global technologies are interpreted, adapted, and applied in specific educational environments. While international literature provides a general understanding of GenAI's affordances, studies in Indonesian madrasahs are still limited. This gap necessitates empirical research that captures student behavior, perception, and institutional readiness. The current study, therefore, aims not only to examine GenAI as a concept but also to explore its real-world implications in an Islamic secondary school context.

In summary, Generative Artificial Intelligence represents a transformative force in English language education, offering students tools for enhanced productivity, creativity, and autonomy. Yet its integration must be tempered by ethical awareness, critical literacy, and institutional support. For students at MAN 3 Pekanbaru, using GenAI is not merely a technical act but a socially and culturally situated practice. Understanding how they perceive and use these tools requires a blend of technological, pedagogical, and contextual analysis. This theoretical foundation sets the stage for further examination of student attitudes, skills, and demographic influences in the subsequent sections of this chapter.

2. Students' Use of Generative AI in English Language Learning

The integration of Generative Artificial Intelligence (GenAI) into English language learning represents a significant shift in how students engage with technology in academic settings. In recent years, AI-powered tools such as ChatGPT, Grammarly, QuillBot, and Google Gemini have become increasingly popular among students for enhancing writing fluency, vocabulary, grammar, summarization, and idea generation. These applications offer real-time responses and feedback that can support students in constructing coherent, contextually appropriate, and grammatically accurate texts. GenAI tools are particularly useful for English as a Foreign Language (EFL) learners, as they reduce writing anxiety and offer accessible support for producing academic texts[21].

The role of GenAI in assisting students in language learning lies in its ability to simulate tutor-like interaction. Through prompt-based dialogue, students can ask questions, request clarification, and receive suggestions that are often more adaptive than static textbook resources. This interaction creates a space where students can enhance their metacognitive awareness by reflecting on language use, structure, and coherence[22]. In this sense, GenAI tools become

[21] Sallam, K. M., et al. (2023). Gender and skill disparities in AI use. London: HEPI.
[22] Chiu, T. K. F. (2023). Feedback loop in AI-based learning. Singapore: Nanyang Technological University Press.

more than mere assistants; they serve as learning partners that contribute to learner autonomy, a key objective in communicative language teaching. This aligns classification of language learning strategies, particularly cognitive and metacognitive strategies, which emphasize understanding and control over one's learning process[23].

In educational contexts like MAN 3 Pekanbaru, the use of GenAI is relatively new and not yet formally embedded in the curriculum. Students often explore these tools independently, outside of teacher supervision or structured classroom tasks. The lack of institutional regulation or teacher guidance may lead to inconsistent or even inappropriate usage patterns. Despite these challenges, students recognize the utility of GenAI tools in supporting assignments, particularly in writing and translating English texts. In a study conducted by HEPI, over 90% of university students in the UK reported using GenAI tools, but less than half received guidance from their institutions. These findings suggest that students are quick to adopt emerging technologies but may lack the digital literacy to use them effectively.

The learning strategies students employ with GenAI often reflect practical needs. For instance, when assigned an essay or

[23] Oxford, R. L. (1990). Language learning strategies: What every teacher should know. New York: Newbury House.

translation task, students might rely on ChatGPT to generate ideas or check grammar. Similarly, QuillBot may be used to rephrase and enhance sentence structure. These uses aligned to identified as compensation and cognitive strategies—techniques that help students overcome limitations in language production. However, overreliance on such tools raises concerns about authenticity and originality. That extensive dependence on AI-generated content may reduce learners' motivation to develop their own writing skills, leading to passive learning behavior[24].

Furthermore, students' use of GenAI is often influenced by their perception of usefulness and ease of use—two central constructs in the Technology Acceptance Model (TAM) proposed[25]. When students perceive GenAI as helpful in completing assignments and easy to operate, they are more likely to incorporate it into their learning routines. This behavioral tendency is also moderated by external variables such as peer influence, prior experience, and institutional norms. In environments where AI tools are openly discussed and encouraged, students may feel more comfortable experimenting with them. Conversely, in more conservative or restrictive settings, they may use AI tools discreetly

[24] Dahal, N. (2023). AI and student creativity. Kathmandu: Himalayan Academic Press.
[25] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340.

or avoid them altogether.

Another dimension of GenAI usage among students concerns ethical considerations and academic integrity. As GenAI becomes more accessible, the boundary between support and plagiarism becomes increasingly blurred. Without proper guidance, students may use AI to generate entire essays or responses, thereby undermining the learning process. The importance of raising awareness among students regarding the ethical use of AI[26]. Similarly, institutions must establish clear policies to define acceptable boundaries for AI use in learning and assessment. In Islamic-based schools such as MAN 3 Pekanbaru, these policies should be culturally sensitive and aligned with moral and religious values.

The current study revealed that students at MAN 3 Pekanbaru primarily used GenAI for language-related tasks such as writing, translating, and summarizing. While some students demonstrated advanced skills in prompting and editing AI responses, others used the tools in more basic ways, such as copying outputs without review. This variation suggests differing levels of digital literacy and familiarity with GenAI. Training programs or workshops could bridge these gaps and promote responsible,

[26] Sharadgah, T., & Sa'di, R. (2022). Ethics in Islamic education technology. Amman: Middle East University Press.

effective use. In equipping students with AI literacy is as important as providing access to the tools themselves[27].

Notably, GenAI also serves as a motivational aid. Students who struggle with English may find encouragement and confidence through AI support, as it allows them to complete tasks more efficiently. According to Vygotsky's Zone of Proximal Development (ZPD), learners benefit most when guided by more capable others; in this case, GenAI can act as a scaffolding agent. When used appropriately, GenAI empowers learners to move beyond their current proficiency level by offering instant feedback and suggestions. However, this benefit can only be fully realized when students understand how to critically assess AI outputs and use them to revise their work meaningfully.

Moreover, the integration of GenAI should be seen as part of a broader movement toward digital transformation in education. In Indonesia, the Ministry of Education and Culture has emphasized the importance of digital tools in enhancing educational outcomes. However, the implementation of such tools in madrasahs remains inconsistent. Teachers may lack the training or confidence to integrate GenAI into classroom instruction, and students may lack institutional support. Therefore, understanding how students use

[27] Guerrero, R., Borge, M., & Davis, N. (2020). Ethical concerns of AI in learning: Understanding risks and responsibilities. Journal of Educational Technology and Ethics, 15(2), 101–117.

GenAI independently offers insight into potential curricular reforms that align with students' real-world learning habits.

In conclusion, the use of Generative AI by students in English language learning is both a promising and complex development. It enhances autonomy, provides personalized feedback, and supports a range of language tasks. Yet, it also introduces new challenges related to ethics, literacy, and pedagogy. For schools like MAN 3 Pekanbaru, recognizing students' patterns of GenAI usage is the first step toward integrating these tools in a way that aligns with educational goals and institutional values. As this research demonstrates, students are not passive recipients of technology but active agents who adapt and personalize AI tools to meet their learning needs.

3. Attitudes and Skills in Using Generative AI

Attitudes and skills play a fundamental role in shaping students' interaction with technology, particularly with emerging tools such as Generative Artificial Intelligence (GenAI). In the context of English language learning, how students perceive AI tools—whether positively or negatively—directly influences their willingness to adopt and effectively use them. Attituderefers to an individual's positive or negative evaluation of performing a

particular behavior[28]. When applied to educational technology, especially GenAI, students' attitudes determine not only acceptance but also the depth of engagement and frequency of use.

Students' attitudes toward GenAI are often shaped by several interrelated factors, including perceived usefulness, ease of use, prior experience, peer influence, and institutional[29]. According to the Technology Acceptance Model (TAM), perceived usefulness (PU) and perceived ease of use (PEOU) are central to forming a favorable attitude. In this research, these constructs are implicitly reflected in students' motivation and comfort in using GenAI for English learning. For instance, students who find AI tools helpful for grammar correction, idea development, or summarization are more likely to report positive attitudes and continued usage. This is found that students with high PU and PEOU were more motivated to use GenAI consistently across learning tasks[30].

Moreover, students' attitudes are not static—they evolve as learners gain more experience and confidence with AI tools. Early skepticism may give way to enthusiasm as students witness the practical benefits of AI, such as efficiency and accessibility. However, this dynamic nature of attitudes also means that negative

[28] Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179–211.
[29] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340.
[30] Chiu, T. K. F. (2023). Understanding the role of GenAI in personalized learning. Singapore: Nanyang Technological University Press.

experiences—such as receiving irrelevant or incorrect AI-generated content—can undermine students' trust and interest[31]. Therefore, sustained engagement with GenAI requires not only functional performance but also ongoing positive user experiences.

Apart from attitudes, skills in using GenAI are equally critical. Technical proficiency includes the ability to construct effective prompts, interpret AI-generated responses, edit content, and identify inaccuracies or bias in the output. In other words, students need not only basic digital literacy but also critical literacy to use GenAI meaningfully. According to the European Commission digital competence encompasses information literacy, communication, content creation, safety, and problem-solving. When applied to AI usage, these dimensions translate into specific skills such as prompt engineering, evaluating source reliability, and navigating ethical considerations.

The findings from this research indicate that students at MAN 3 Pekanbaru possessed moderate skills in using GenAI tools. While many could operate basic functions such as rephrasing or translation, fewer demonstrated higher-order skills such as customizing outputs or critically reviewing AI responses. This variation reflects broader disparities in digital literacy, likely influenced by access to training, exposure to technology, and

[31] Sallam, K. M., et al. (2023). Gender and skill disparities in AI use. London: HEPI.

support from teachers. Skill development in AI use is cumulative and often self-directed, especially in educational environments where structured instruction is limited[32].

Gender also emerged as a relevant demographic factor influencing skills in GenAI use. The results of this study revealed that male students tended to report slightly higher levels of technical confidence, while female students expressed greater concern over accuracy and ethical use. These gendered patterns are not uncommon found that technology use is often socially conditioned, with male students more willing to experiment with tools and female students more likely to seek guidance[33]. However, such disparities can be addressed through inclusive digital training that empowers all students regardless of background.

Another important skill in GenAI use is the ability to evaluate and revise AI outputs. Unlike static software, GenAI tools are probabilistic and can sometimes produce "hallucinated" or biased content[34]. Students must therefore develop evaluative skills to distinguish between helpful suggestions and misleading information. This critical literacy is closely linked to metacognitive strategies in language learning, which involve planning, monitoring,

[32] Abood, M. (2021). Artificial intelligence skills for education: A self-directed approach to learning AI tools. London: Academic Insights Publishing.
[33] Teo, T. (2011). Factors influencing teachers' intention to use technology: Model development and test. Computers & Education, 57(4), 2432–2440.
[34] Yu, Y., et al. (2023). Enhancing EFL learning through AI tools: Opportunities and concerns in educational settings. Journal of Educational Technology Research, 45(2), 134–150.

and evaluating one's learning process[35]. Teachers play an essential role in cultivating these skills by modeling evaluation techniques and encouraging reflection.

Positive attitudes and strong skills often reinforce each other. Students with favorable attitudes are more likely to invest time in developing their skills, and those with better skills tend to have more positive experiences that enhance their attitudes. This reciprocal relationship Social Cognitive Theory, which posits that personal factors, behavior, and environment interact in a triadic reciprocal fashion[36]. In educational contexts, when students see themselves succeeding with GenAI, their self-efficacy increases, motivating further use and exploration.

Institutional support also contributes significantly to shaping both attitudes and skills. Schools that provide orientation sessions, digital literacy workshops, or even informal discussions about AI usage tend to foster more positive and capable users. This study emphasized that when teachers and administrators openly address AI tools and their educational value, students are more likely to view them as legitimate learning aids[37]. In contrast, institutions that ignore or ban AI tools may inadvertently create confusion or

[35] Oxford, R. L. (1990). Language learning strategies: What every teacher should know. New York: Newbury House.
[36] Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice Hall.
[37] Sharadgah, T., & Sa'di, R. (2022). Contextualizing AI in Islamic education. Amman: Middle East University Press.

resistance among students.

Ethical and pedagogical guidance further enhance students' capacity to use GenAI responsibly. Understanding when and how to attribute AI-generated content, maintaining academic honesty, and recognizing the limitations of AI tools are all part of responsible usage. As Cambridge University Press & Assessment pointed out, ethical use of GenAI must be taught explicitly to prevent misuse. For students at MAN 3 Pekanbaru, whose educational environment is rooted in both academic and religious values, aligning AI usage with ethical expectations is especially important.

In summarize, both attitudes and skills are foundational to the meaningful use of GenAI in English learning. Positive attitudes encourage exploration and sustained engagement, while strong skills enable students to use AI tools critically, creatively, and ethically. The findings from this research underscore the need for targeted interventions that promote these factors in tandem. For institutions like MAN 3 Pekanbaru, fostering a supportive environment—through training, clear policies, and teacher guidance—can maximize the benefits of GenAI while minimizing its risks.

4. Demographic Factors Influencing Generative AI Usage

In educational technology research, demographic factors are recognized as important determinants in understanding patterns of technology adoption and use among learners. Variables such as age, gender, grade level, and prior training experience can significantly influence how students engage with digital tools, including Generative Artificial Intelligence (GenAI) platforms. These factors interact with cognitive, psychological, and contextual variables that collectively shape user behavior and learning outcomes. In the context of this study at MAN 3 Pekanbaru, demographic attributes were analyzed to assess their impact on students' frequency of GenAI use, technical skill, and attitudes toward AI in English learning.

Gender differences in technology adoption have long been observed across various domains of education. Numerous studies suggest that male and female students often demonstrate distinct patterns in terms of digital confidence, usage intensity, and types of tools used. Male students generally exhibit higher levels of technology acceptance and are more likely to explore new tools independently[38]. In contrast, female students tend to show more caution, often seeking clarity and instructional support before

[38] Teo, T. (2011). Factors influencing teachers' intention to use technology: Model development and test. Computers & Education, 57(4), 2432–2440

integrating new technologies into their routines. These gendered patterns were reflected in the findings of this study, where male students displayed stronger GenAI usage skills (β = -0.167, p = 0.001) and reported more frequent usage (β = -0.205, $p < 0.001$). This trend suggests a gender-based digital divide that warrants targeted pedagogical support to ensure equitable access and digital confidence among all students.

Age is another critical demographic variable explored in technology use research. Typically, older students are assumed to have greater exposure to technology and, thus, more experience navigating digital tools[39]. However, findings from this study indicated that age did not significantly influence attitudes, skills, or frequency of GenAI usage among students at MAN 3 Pekanbaru. This may be attributed to the narrow age range of respondents—predominantly 15 to 17 years old—suggesting that in homogeneous student groups, age may be less impactful compared to other factors like access, guidance, or motivation. Similar conclusions were drawn by Kimmons[40], who argued that in contexts where age differences are minimal, other psychosocial factors play a larger role in technology engagement.

[39] Zarouk, H., Alraja, M. N., & Alshurideh, M. T. (2022). Age and digital literacy: The moderating role of age in technology adoption in education. Education and Information Technologies, 27(1), 55–73.

[40] Kimmons, R., Miller, B., Amador, J., Desjardins, C. D., & Hall, C. (2018). Technology integration in a shifting educational landscape: Research findings from a state-level study. Educational Technology Research and Development, 66(1), 107–129.

Grade level, often associated with academic maturity, curriculum complexity, and exposure to learning tools, was also analyzed in this research. It was hypothesized that students in higher grades might demonstrate greater proficiency or engagement with AI tools due to increased academic demands and autonomy in learning. However, the study revealed that grade level had no statistically significant influence on the primary constructs (attitudes, skills, and frequency of AI use). This suggests that access to and interest in GenAI tools may not vary strongly across grade levels in MAN 3 Pekanbaru. One possible explanation findings is that digital tool usage is increasingly learner-driven and not strictly tied to formal curricular progression, especially in informal learning contexts where students self-select AI tools based on need rather than grade[41].

Training experience, on the other hand, demonstrated a substantial and statistically significant effect on students' skills in using GenAI ($\beta = 0.168$, $p < 0.001$), and indirectly affected frequency of use ($\beta = 0.039$, $p = 0.014$). This underscores the critical role of structured learning opportunities in equipping students with the necessary skills to leverage AI effectively in educational tasks. Consistent with the findings students who participated in any form

[41] Alghamdi, A. A., & Bayaga, A. (2022). Learner-driven technology integration: Understanding student agency in digital learning environments. Education and Information Technologies, 27(6), 8773–8791.

of training—formal or informal—on AI tools showed higher confidence and capability in prompt construction, output evaluation, and academic application[42]. In Indonesian madrasah settings where formal AI training is still scarce, such findings highlight the urgency of integrating digital literacy and AI-focused modules into secondary education.

These results collectively emphasize the nuanced roles demographic factors play in shaping GenAI engagement. While age and grade might not yield significant differences in homogeneous samples, gender and training are consistently influential. Gender-based variation calls for gender-responsive pedagogical interventions, including mentorship, inclusive workshops, and equitable access to AI-enhanced learning platforms. Meanwhile, the positive impact of training supports institutional investments in AI literacy programs, especially within faith-based educational institutions like MAN 3 Pekanbaru.

Furthermore, it is essential to recognize that demographic effects do not operate in isolation. They often interact with environmental, motivational, and instructional variables, forming a complex web of influences that determine how students adopt and use AI tools. For instance, a female student with prior AI training may outperform an untrained male peer, thus showing that enabling

[42] Huang, S., et al. (2023). School governance of technology. New York: Routledge.

factors such as support and exposure can mediate or even override the limitations of demographic background. This dynamic interaction aligns with the Ecological Systems Theory which situates individual development within interconnected systems—micro (family, school), meso (interaction between settings), and macro (cultural values, policies)[43].

The lack of institutionalized AI training in many schools presents both a challenge and an opportunity. On the one hand, it reveals gaps in digital infrastructure and pedagogical readiness. On the other, it opens the door for innovative curriculum development, teacher capacity building, and collaboration with educational technology providers. Integrating AI awareness and usage modules into national curriculums can democratize digital competencies and prepare students for a rapidly evolving digital future. This is particularly crucial in madrasahs, where educational goals must balance technological advancement with religious and ethical foundations[44].

Lastly, policymakers and educators must avoid generalizations when interpreting demographic data. Demographic patterns offer valuable insights, but they should not be used to stereotype learners or make rigid instructional decisions. Instead,

[43] Bronfenbrenner, U. (1979). The ecology of human development: Experiments by nature and design. Cambridge, MA: Harvard University Press.
[44] Burch, T., & Mohammed, R. (2023). Equipping learners for the AI era: Policy recommendations for inclusive technology education. London: EdTech Policy Institute.

they should inform adaptive and differentiated instructional designs that consider individual variability and ensure that all students—regardless of gender, age, or background—can benefit from the transformative potential of GenAI tools in language learning.

In conclusion, this research underscores that while not all demographic factors exert the same level of influence, gender and training experience significantly shape students' engagement with Generative AI in English learning. Acknowledging and addressing these disparities is essential to creating an inclusive, equitable, and future-ready educational environment. Institutions like MAN 3 Pekanbaru are well-positioned to lead this transformation by aligning technology integration with their cultural, moral, and pedagogical values.

5. Ethical and Pedagogical Principles in Gen AI Use

The increasing integration of Generative Artificial Intelligence (GenAI) into educational contexts has brought not only significant pedagogical opportunities but also critical ethical challenges. As AI-generated tools such as ChatGPT, Grammarly, QuillBot, and Google Gemini become commonplace in academic settings, their use must be carefully guided by both ethical frameworks and pedagogical principles. In the context of English learning among students at MAN 3 Pekanbaru, ensuring responsible and educationally sound use of GenAI is especially important,

considering the unique cultural and religious values upheld in madrasah environments. Ethical and pedagogical concerns thus intersect, forming a vital framework that ensures GenAI enhances rather than disrupts the integrity of the learning process.

From an ethical standpoint, several concerns have emerged around the uncritical or excessive use of GenAI. These include issues related to plagiarism, misinformation, over-reliance on automation, and lack of transparency in academic production. Many students tend to use GenAI without a deep understanding of the implications of doing so, leading to challenges in maintaining academic honesty and ownership of their work[45]. In response, institutions must set clear guidelines for the ethical use of AI and educate students on principles of academic integrity when interacting with machine-generated content.

One of the most pressing ethical issues is the risk of plagiarism. AI tools can produce entire paragraphs or even essays, which may be copied and submitted by students as original work. While these tools assist in language development, their misuse can undermine learning objectives. Stresses the importance of transparency—students must be aware of when, how, and why they are using AI tools and be taught to acknowledge these tools

[45] Sallam, K. M., et al. (2023). ChatGPT in academic writing: Opportunities and limitations. London: HEPI.

appropriately, much like citing sources in traditional academic writing. This aligned with the position of OpenAI, which recommends user responsibility in verifying and refining AI-generated content to ensure accuracy and originality[46].

Moreover, data privacy and consent are essential ethical considerations. Many GenAI platforms collect and process user data to train models or refine their services. Without proper understanding, students may unknowingly share sensitive personal information. AI developers and educational institutions must ensure compliance with data protection laws such as GDPR and establish ethical guidelines for the responsible collection and use of student data[47]. In Indonesia, where such legal frameworks are still developing, madrasah leaders must be proactive in developing internal policies that safeguard student privacy.

Ethically sound use of GenAI also depends on minimizing algorithmic bias and ensuring equity. GenAI tools may reflect the biases present in their training data, potentially leading to cultural, racial, or linguistic inaccuracies. For students in Islamic schools like MAN 3 Pekanbaru, such biases can conflict with cultural and religious norms. Teachers must therefore play an active role in

[46] Kay, R. H. (2012). Exploring student perception of learning technologies. Computers & Education, 59(4), 1054–1061.
[47] Shu, R., & Xu, H. (2022). Data governance and ethical AI in schools. Beijing: Tsinghua University Press.

mediating the content provided by GenAI and discussing its limitations openly with students. Critical digital literacy—where learners are encouraged to question the source, purpose, and quality of digital content—is essential in modern education.

From a pedagogical perspective, GenAI offers powerful affordances that can enhance student learning, but only when integrated thoughtfully. Cambridge University Press & Assessment outlines several pedagogical principles for AI integration: preserving human feedback, promoting metacognitive reflection, and reinforcing learning goals through interaction rather than substitution. Teachers must ensure that students do not passively consume GenAI outputs, but instead engage critically and reflectively with the content to develop their language skills.

The teacher's role is therefore central. Teachers must guide students in evaluating, revising, and contextualizing AI-generated content, thereby reinforcing higher-order thinking skills. Effective technology integration requires active teacher mediation, where digital tools complement but do not replace instructional interaction[48]. In this regard, GenAI can support differentiated instruction, helping teachers cater to students with varying

[48] Kim, C., & Reeves, T. C. (2007). Teacher influence on perception. New York: Routledge.

proficiency levels by offering scaffolded assistance[49].

Furthermore, teacher readiness to use GenAI effectively is a prerequisite for ethical and pedagogical success. This indicates that many teachers feel ill-prepared to integrate AI tools due to a lack of training and institutional support[50]. At MAN 3 Pekanbaru, this reality is especially critical, as teachers must not only master AI tools but also align them with Islamic values and moral instruction. Thus, schools must invest in professional development programs that equip educators with the digital and ethical competencies required to lead AI-enhanced learning environments.

Another important pedagogical consideration is maintaining student agency and creativity. When students rely too heavily on AI tools, there is a risk that their creative and critical thinking skills may deteriorate. GenAI turning students into passive receivers of knowledge, highlighting the need for active learning strategies that foster inquiry, analysis, and self-expression. Teachers can address this risk by integrating GenAI use into writing workshops, peer reviews, or guided tasks where students use AI as a starting point but must refine and justify their outputs independently[51].

[49] Huang, S., et al. (2023). Teacher readiness and policy gaps. New York: Routledge.
[50] Braine, G., & May, C. (1996). Writing from sources: A guide for ESL students. California: Mayfield.
[51] Dahal, N. (2023). Emerging risks and promises of generative AI in education. Kathmandu: Himalayan Academic Press.

In religious-based education contexts such as MAN 3 Pekanbaru, moral and spiritual values add another layer of complexity to ethical and pedagogical concerns. AI-generated content that includes inappropriate language, religious insensitivity, or secular ideologies can conflict with the school's values. The importance of cultural alignment in AI use, suggesting that teachers in religious institutions should filter content, guide interpretation, and maintain alignment with institutional values[52]. This ensures that technology serves the educational mission rather than disrupts it.

Ultimately, integrating GenAI into classrooms must be guided by a balanced framework that respects ethical boundaries and leverages pedagogical potential. This includes:

- Transparent policies on AI use in academic work.
- Guidelines on citing or acknowledging AI-generated content.
- Privacy protections aligned with local and international standards.
- Teacher training and instructional strategies tailored to GenAI.
- Safeguards to prevent over-reliance and foster

[52] Hai-bo, Y. (2022). Regional disparities in AI tool implementation. Beijing: Education Science Publishing House.

independent learning.

- Cultural and religious alignment with educational values.

These principles should not be static but must evolve with technological developments and contextual needs. Sustainable AI integration requires continuous dialogue among stakeholders—educators, students, policymakers, and technology providers—to ensure responsiveness to emerging challenges and opportunities[53].

In the case of MAN 3 Pekanbaru, these ethical and pedagogical concerns are particularly relevant. Students are increasingly exposed to AI tools, but formal instruction on how to use them responsibly remains limited. This study supports the development of school-based guidelines and teacher-led workshops that bridge this gap and foster AI literacy among learners. As Indonesia's education system continues to digitize, madrasahs must lead by example in demonstrating how technology and tradition can coexist harmoniously through ethical and pedagogical foresight.

Ethical and pedagogical considerations are indispensable in ensuring that GenAI serves as a tool for academic growth rather than a shortcut to performance. With appropriate guidance, clear policies, and culturally responsive strategies, GenAI can be a transformative

[53] Sharadgah, T., & Sa'di, R. (2022). Islamic perspectives on AI in education. Amman: Middle East University Press.

force in English language education. It is not enough to provide students with access to AI; schools must also provide the wisdom to use it well.

6. Students' Perception of Generative AI in Learning English

Students' perception of generative AI in English learning plays a crucial role in how effectively these tools are integrated into classroom practice. Many students perceive tools like ChatGPT, Grammarly, and QuillBot as helpful resources to support their grammar, vocabulary, and writing structure. According to HEPI & Kortext over 50% of students reported using generative AI tools to aid in academic writing, while still being concerned about ethical boundaries and misuse. These tools offer assistance that feels personalized and accessible, often mimicking the support a tutor might provide. Therefore, students tend to perceive AI tools as convenient learning companions, particularly in mastering English writing skills.

Despite the perceived benefits, some students express uncertainty or skepticism about the reliability and accuracy of generative AI outputs. Concerns include AI-generated errors, hallucinations, or generic responses that may mislead rather than support learning. Students often rely on peer validation or teacher review to confirm AI-generated content. This highlights the dual

perception: while AI is a tool for independence, students still value human judgment in validating its output[54]. These mixed views indicate that perceptions are shaped by both experience and the educational environment in which the tools are used.

In the context of Islamic senior high schools like MAN 3 Pekanbaru, students may also evaluate AI tools based on religious or ethical norms. Since some AI content may not align with Islamic values, students are cautious in applying it, especially for writing with religious or moral themes. Cultural context heavily influences student attitudes toward technology use. Therefore, students in madrasahs may adopt a more critical and selective use of AI tools, balancing academic support with value-based considerations[55]. Their perception is not only academic but also moral and contextual.

Another aspect of student perception concerns the institutional response to AI usage. When schools provide clear guidance and allow responsible use, students report feeling more confident and supported in using generative AI. However, when rules are unclear or overly restrictive, students may either avoid AI entirely or use it in secrecy. Students prefer transparent policies and teacher support to help them navigate AI use effectively. Hence,

[54] Sallam, K. M., et al. (2023). Trust and evaluation of AI outputs. London: HEPI.
[55] Sharadgah, T., & Sa'di, R. (2022). Ethics in Islamic education technology. Amman: Middle East University Press.

their perception is influenced not only by the tool itself but also by the school's stance and teacher readiness. This institutional dimension plays a crucial role in shaping how students interact with AI in English learning.

7. Teachers' Guidance in Students' Use of Generative AI

Teachers hold a pivotal position in ensuring that the integration of generative AI (GenAI) tools in English language learning is both effective and ethical. As AI tools like ChatGPT, Grammarly, and QuillBot become more popular among students, teachers are required to guide learners in using these tools responsibly. According to Cambridge University Press & Assessment, teachers must remain central to the learning process, with AI serving as a support system rather than a replacement.[1] Teachers are responsible for contextualizing AI-generated content and fostering meaningful interaction with language rather than passive reliance on automated outputs. Without pedagogical guidance, students may misuse GenAI or adopt it uncritically, which can hinder their language development.

A key responsibility of teachers is to help students interpret and reflect on the output of GenAI tools. While GenAI provides instant grammar checks, paraphrasing, and writing suggestions, learners may not always understand the reasoning behind those

suggestions. Instructional technology must be supported by active teaching practices to truly improve learning outcomes.[3] Teachers can scaffold students' AI-assisted writing by giving feedback, encouraging critical evaluation, and guiding them to revise with intention. In this way, the teacher's role shifts from transmitter of knowledge to facilitator of intelligent AI-supported learning.

Additionally, teachers must instill ethical awareness and academic integrity when students use AI tools in learning. Many students, especially at the secondary level, are unaware of how AI use may cross into plagiarism or academic dishonesty if used without understanding. The need for educators to teach students about transparency, citation, and authorship when working with GenAI-generated content.[5] This is particularly important in religious-based schools such as MAN 3 Pekanbaru, where moral and ethical values are integral to the learning environment. In such settings, teachers play a dual role in promoting both academic and moral responsibility.

To fulfill these roles effectively, teachers themselves need support through training, clear policies, and collaborative frameworks. Many educators feel unprepared to integrate AI tools without institutional support or professional development.[7] When teachers are empowered with digital literacy and updated

pedagogical strategies, they can confidently incorporate GenAI into language instruction[56]. School leaders and policymakers must ensure that educators are not left behind in the AI transformation of education. Therefore, a strong institutional commitment is crucial to maximize the potential of Gen AI while safeguarding educational quality.

B. RELEVANT RESEARCH

Relevant research is important for each research. The researcher is required to review several previous studies conducted by other scholars that are related to the current topic. In addition, it is necessary to present their research design, findings, and conclusions. There are five related studies that are pertinent to this study.[57]

1. The first is a research conducted by Josh Freeman (2025), published in *HEPI Policy Note 61*, and entitled *Student Generative AI Survey 2025*. One notable international study was conducted by the Higher Education Policy Institute (HEPI) in collaboration with Kortext, titled the Student Generative AI Survey 2025. This survey gathered responses from university students in the UK, revealing widespread

[56] Shu, R., & Xu, H. (2022). Data governance and ethical AI in schools. Beijing: Tsinghua University Press.
[57] Syafi'i, M. (2019). From Paragraphs to a Research Report: A Writing of English for Academic Purpose. Pekanbaru: LBSI.

adoption of AI tools like ChatGPT, Grammarly, and QuillBot for writing support, summarization, and academic brainstorming. The study highlighted both opportunities and challenges in integrating AI into learning environments (Freeman, 2025). The current research adapted this instrument to investigate similar patterns among high school students in an Indonesian madrasah context, thereby addressing a key gap in the literature. This large-scale study explored how university students in the UK engage with generative AI tools such as ChatGPT. Freeman found that 88% of students used AI for academic assessments, primarily to save time and improve the quality of their work. However, concerns about being accused of cheating remained a significant barrier to usage. The study also noted the need for institutions to shift focus from merely preventing misuse to enhancing AI literacy among students. In contrast, the present research focuses on students at MAN 3 Pekanbaru, a senior Islamic high school in Indonesia. While both studies highlight the growing popularity of AI tools for academic tasks, the context, age group, and institutional culture differ. In this study, most students reported using AI tools like Google Translate, ChatGPT, and Grammarly to assist with English learning, especially for grammar correction and translation. However, institutional guidance, ethical education, and structured support were found to be lacking, similar to the findings in Freeman's work but in a more foundational stage.

The HEPI study revealed that digital divides persist across gender, socioeconomic status, and academic discipline. Male and wealthier students, as well as those in STEM fields, were more likely to use AI tools regularly. In the current study, while such divides were not measured explicitly, responses indicate that access to devices and familiarity with AI tools still vary among students. For instance, students with personal smartphones and internet access at home showed more frequent AI usage compared to their peers who rely on school facilities. Both studies also underscore the uncertainty around the ethical use of AI. Freeman's participants were divided on what constitutes acceptable use, especially in writing assignments. Similarly, many students in MAN 3 expressed hesitation regarding the legitimacy of using AI-generated content in schoolwork, particularly in relation to religious or moral values. This indicates that across educational levels, clear policies and ethical guidance are urgently needed. In summary, Freeman's research provides insight into AI integration at the higher education level in a developed country, while the present study sheds light on its emergence in secondary education in a developing context. Both studies point to the necessity of institutional support, AI literacy, and ethical awareness. However, the current research also emphasizes the unique challenges faced in religious-based schools where digital integration is still evolving. This comparison highlights that

although AI adoption is global, its implementation and implications remain highly contextual.

2. The second is a research conducted by Leonardo Banh and Gero Strobel (2023), titled Generative Artificial Intelligence, which provides a comprehensive theoretical foundation of generative AI (GenAI). This study explores how GenAI, built upon deep generative models (DGMs), differs from traditional, discriminative AI by focusing on its ability to generate novel content such as texts, images, and code. The authors emphasize that this shift towards generativity introduces not only new opportunities in automation but also a new set of challenges that researchers and users must address—including bias, hallucination, transparency, and misuse. The core finding of this study is that generative AI marks a paradigm shift in machine learning and artificial intelligence, allowing systems not only to analyze data but to create original output. The authors propose that researchers and practitioners must understand the concepts of generativity and variance in order to responsibly implement GenAI in real-world scenarios. This paper highlights that while the potential applications of GenAI are vast, its integration into industry and education must be accompanied by safeguards such as ethical frameworks, transparency mechanisms, and public trust-building. In comparison to the current study conducted at MAN 3 Pekanbaru, Banh and Strobel's work is more conceptual and

focuses on the technological foundations and theoretical landscape of GenAI. While their research is rooted in the technical domain and offers a macro-level analysis of AI across industries, the present research takes a micro-level approach, examining how high school students perceive and use GenAI in English language learning. Despite these differences, both studies acknowledge the dual nature of GenAI: its creative power and its ethical risks. One of the most relevant takeaways from Banh and Strobel's study is the emphasis on user awareness and responsible application. In the MAN 3 context, students may not yet have full comprehension of GenAI's inner workings, but they are already interacting with tools like ChatGPT, Grammarly, and Google Translate. This reflects a growing need for schools to introduce basic GenAI literacy, helping students not only use these tools effectively but also evaluate the quality and reliability of AI-generated content. Ultimately, while the research by Banh and Strobel contributes to the global academic discourse on GenAI's mechanisms and impact, the current study provides empirical data on student experiences and perceptions in a developing educational context. Together, these two perspectives—macro and micro, theoretical and practical—help build a more holistic understanding of generative AI and its place in modern education.

3. The third relevant study was presented by FX. Risang Baskara (2023) at the Seminar Nasional Unigha entitled "Navigating Pedagogical Evolution: The Implication of Generative AI on the Reinvention of Teacher Education". This study is a theoretical and argumentative review that explores the impact of generative AI on teacher roles and the urgent need for transformation in teacher education programs. Unlike this current descriptive quantitative research which collects data from students at MAN 3 Pekanbaru, Baskara's work focuses on educators and conceptual changes in teaching. He argues that teachers must evolve from being mere knowledge transmitters to facilitators, learning engineers, and ethical AI guides. This pedagogical shift requires teacher training programs to integrate AI tools, develop ethical frameworks, and foster student-centered learning. The study emphasizes that generative AI tools can enhance personalization in learning, but also demand greater responsibility from educators in interpreting AI-generated content. It warns that without reform in teacher preparation, the integration of AI into classrooms may be misaligned with pedagogical goals. Therefore, this research serves as a call for higher education institutions to rethink the design of teacher education in line with the digital revolution. In contrast, the current study does not focus on teacher education reform but instead on how students are using generative AI for English language learning,

particularly their behavior, frequency, preferences, and perceptions. While both studies acknowledge the transformative role of AI in education, their focus and population differ significantly. Baskara targets the macro-level changes needed in teacher education, while this study centers on the micro-level experiences of students engaging with AI tools. Despite the difference in focus, both studies highlight the urgency of institutional readiness and the ethical dimension of AI use. Baskara's findings are essential to understand how future teaching practices can align with AI developments, while the present research provides empirical insights into current AI use by students in religious-based secondary education settings. These complementary perspectives support the idea that a holistic approach—combining student readiness and teacher competence—is necessary for the successful integration of generative AI into Indonesia's education system.

C. CONCEPTUAL FRAMEWORK

The conceptual framework for this study maps out the hypothesized relationships among demographic factors, training experience, students' attitudes and skills, and the frequency of generative AI use in English learning. It is grounded in the Technology Acceptance Model (TAM) and empirical findings on digital literacy, adapted to the EFL context at MAN 3 Pekanbaru.

1. Independent Variables

a. Gender (X1)

b. Age (X2)

c. Grade Level (X3)

d. Training Experience (X4)

These variables are expected to exert both direct and indirect effects on AI use:

a. Directly on Frequency of AI Use (Y)

b. Indirectly via Attitudes toward AI (M1) and Skills in Using AI (M2)

2. Mediating Variables

a. Attitudes toward AI (M1)

Students' affective and cognitive dispositions toward generative AI, shaped by perceived usefulness and ease of use.

b. Skills in Using AI (M2)

Students' self-reported competence in operating AI tools for language tasks.

Both M1 and M2 are posited to mediate the influence of X1–X4 on Y.

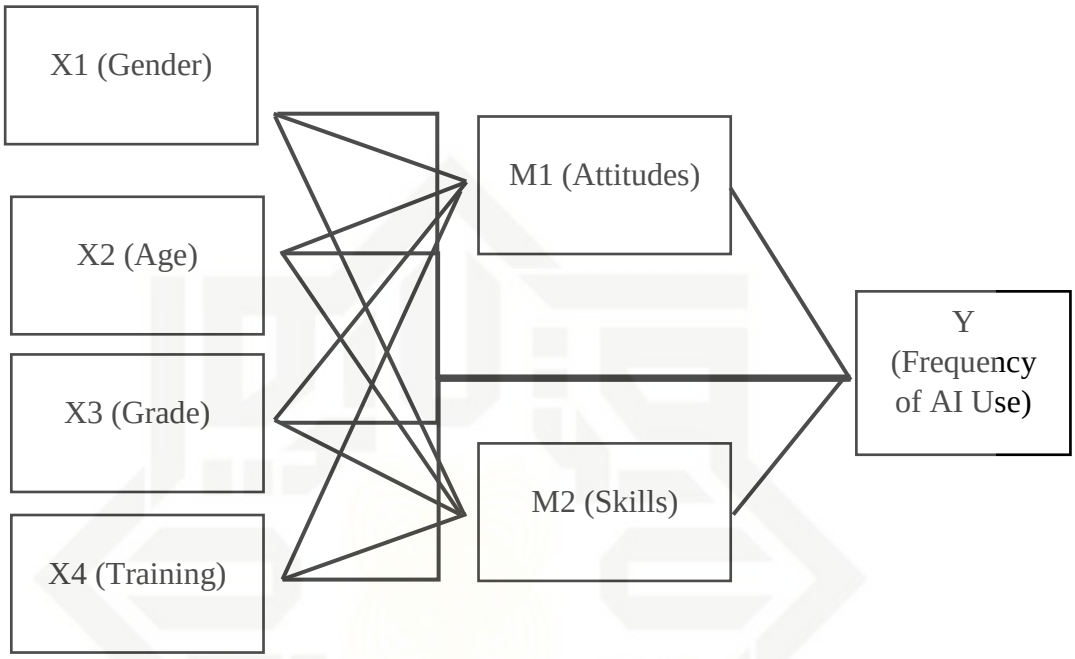
3. Dependent Variable

a. Frequency of AI Use (Y)

How often students employ generative AI tools in English learning activities.

Figure III. 1

Reseach Design Diagram



D. OPERATIONAL CONCEPT

Operational concepts are crucial in transforming abstract theoretical constructs into measurable variables suitable for empirical research. Operational concepts are crucial in transforming abstract theoretical constructs into measurable variables suitable for empirical research. An operational concept provides practical and observable definitions for each variable, helping to avoid ambiguity and ensuring research reliability.[58] In this study, the focus is on the

[58] Syafi'i, M. (2015). From Paragraphs to a Research Report: A Writing of English for Academic Purpose. Pekanbaru: LBSI.

use of Generative Artificial Intelligence (AI) by students in the context of English language learning at MAN 3 Pekanbaru.

This research adapts its framework from both language learning theory and recent developments in generative AI. From the perspective of language learning, this study classification of learning strategies, which divides strategies into direct (memory, cognitive, and compensation) and indirect (metacognitive, affective, and social) categories[59]. While Oxford's framework provides insight into learner behavior, the rapid integration of generative AI into education requires the inclusion of a new digital dimension.

The conceptual understanding of generative AI used in this study draws on the definition by scholars who describe generative AI as systems capable of creating novel and realistic content—such as text, speech, or code—based on user prompts[60]. These tools (e.g., ChatGPT, Grammarly, Duolingo) are increasingly used by students to support self-regulated learning. Similarly, HEPI's 2025 Policy Note found that students view AI as beneficial for improving academic outcomes and saving time, although concerns about cheating and equity persist.

[59] Oxford, R. L. (1990). Language learning strategies: What every teacher should know. New York, NY: Newbury House Publishers.
[60] Banh, T., & Strobel, J. (2023). Understanding Generative Artificial Intelligence: Implications for Engineering Education. International Journal of Engineering Pedagogy (iJEP), 13(1), 93–115.

Based on this synthesis, the operational concept of this study includes the following dimensions:

In conducting this research, operational concept as considered an essential component to ensure clarity and precision in data interpretation. The term operational concept refers to a practical and empirical translation of theoretical ideas to avoid ambiguity or misinterpretation in scientific research. Operational concepts are derived from relevant theoretical frameworks, allowing researchers to measure variables based on observable indicators within the context of their study[61].

In this research, the operational concept is adapted from various frameworks in technology acceptance and digital literacy, but specifically tailored to the context of Generative AI in English language learning. The core variables in this study include frequency of AI use, students' attitudes toward AI, and AI-related skills, along with several demographic and contextual factors such as gender, age, grade level, and training experience.

The researcher refers to the constructs commonly found in studies related to technology integration and language learning strategy research, such as those adapted from Oxford's

[61] Syafi'i, M. (2015). From Paragraphs to a Research Report: A Writing of English for Academic Purpose. Pekanbaru: LBSI

classification, although applied here in a modified form to suit the current educational and technological context. For the purpose of this research, the operational concepts are divided into several dimensions:

1. **Frequency of Using AI Tools**

This variable refers to how often students engage with generative AI tools (e.g., ChatGPT, Grammarly, Quillbot) in their English language learning activities. The indicators include how frequently they use AI, what types of tasks they use it for (e.g., writing, translation, grammar checking), and the consistency of such use across different assignments.

2. **Attitudes Toward Generative AI**

This variable reflects students' emotional, cognitive, and behavioral responses toward the use of AI in learning. The attitudes include perceived usefulness, ease of use, enthusiasm, skepticism, and ethical considerations. The researcher adapts items based on the Technology Acceptance Model (TAM) and student attitude surveys in EdTech research.

3. **Skills in Using AI Tools**

This dimension refers to students' ability to operate, navigate, and utilize generative AI platforms for educational

purposes. It includes operational skill (basic usage), strategic skill (using AI for specific tasks), and reflective skill (understanding and evaluating AI outputs).

4.Training Experience

This supporting variable identifies whether students have received any formal or informal training related to AI usage. It is measured through a binary response (Yes/No) and open-ended descriptions of the type of training, if applicable.

5. Demographic Variables

These include:

a. Gender (male/female)

b. Age (in years)

c. Grade level (Grade X or XI)

Through these operational definitions, each concept in the study is clearly defined, measurable, and applicable in empirical data collection. The structured approach to operationalization allows the researcher to develop valid instruments and draw meaningful conclusions about the use of Generative AI in English language learning at MAN 3 Pekanbaru. Each of these variables is broken down into indicators that are measurable through a structured questionnaire. The clear operationalization of these concepts allows

the researcher to analyze not only how students behave toward AI use, but also what factors (such as training or demographics) may influence that behavior. This framework provides the foundation for developing valid and reliable instruments that guide the data collection and interpretation process.

BAB III

RESEARCH METHODOLOGY

A. Research Design

This study employed a survey research design, as it aimed to systematically and objectively describe the phenomenon of generative AI use among students in English language learning[62]. Survey research is effective for gathering quantitative data from a large population, enabling the researcher to explore current attitudes, behaviors, and experiences without manipulating variables[63]. Given that the objective was to portray how students interact with generative AI tools, the survey method provided the most appropriate structure for gathering relevant data.

The design allowed for the collection of standardized responses from a wide sample of students at MAN 3 Pekanbaru using a structured questionnaire distributed via Google Forms. The instrument focused on measuring students' attitudes toward AI, their self-assessed skills in using AI, frequency of AI use, and demographic characteristics such as age, gender, grade level, and training experience. Survey design was chosen because it provides

[62] Cohen, L., Manion, L., & Morrison, K. (2007). Research Methods in Education (6th ed.). London: Routledge.
[63] Creswell, J. W. (2012). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed.). Boston: Pearson.

consistent data points for statistical analysis, allowing for the identification of patterns, trends, and associations among variables[64].

This quantitative approach was also aligned with the descriptive nature of the research, which did not aim to test specific hypotheses, but instead sought to provide factual, numerical illustrations of students' engagement with AI tools. Descriptive methods are valuable for gaining quicker and deeper understanding of phenomena in real-world educational settings[65]. The design facilitated objective data collection and avoided researcher bias, while still allowing for the analysis of variation across subgroups, such as gender differences in AI use or the impact of training on skills.

In summary, the survey research design was selected due to its effectiveness in capturing data from a large number of respondents with minimal intervention. It offered the flexibility to analyze key variables and their interrelationships within the student population. The structured and objective nature of this approach ensured the research findings would be valid and generalizable within the context of English learning at MAN 3 Pekanbaru,

[64] Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to Design and Evaluate Research in Education (8th ed.). New York: McGraw-Hill.
[65] Nuardi. (2015). Metodologi Penelitian Pendidikan. Bandung: Citapustaka Media Perintis.

especially as the use of AI becomes increasingly relevant in education[66].

B. Time and Place of the Study

The research will took place at MAN 3 Kota Pekanbaru, located on Jl. Karya Guru, Panam, Pekanbaru, focusing on tenth-grade students.

C. Subject and Object of the Research

1. Subject of the Research

The subject of this research was the Tenth and Eleventh grade students of MAN 3 Pekanbaru.

2. The Object of the Research

The subjects of this research were students of MAN 3 Pekanbaru from grades X and XI. These students were selected because they had already gained experience or knowledge regarding the use of generative Artificial Intelligence (AI) in their learning activities, particularly in English language classes. The generative AI platforms in question included popular tools such as ChatGPT,

[66] Creswell, J. W. (2012). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed.). Boston: Pearson Education, Inc.; Ary, D., Jacobs, L. C., Sorensen, C. K., & Razavieh, A. (2010). Introduction to Research in Education (8th ed.). Belmont, CA: Wadsworth.

Grammarly, Quillbot, and similar applications, which were commonly used to assist in understanding materials, composing texts, correcting grammar, and improving writing skills. Students from these two grade levels were considered relevant as research subjects because they were at an active learning stage and had greater opportunities to engage with technology during their studies. Furthermore, their participation provided a representative overview of the trends in generative AI use within the madrasah environment.

D. The Population and Sample

1.Population of the Research

The researcher conducted the experiment in the tenth grade at MAN 3 Kota Pekanbaru, located on Jl. Karya Guru, Panam, Pekanbaru. Creswell (2012) definedre population as a group of individuals who share common characteristics relevant to a particular study. In this research, the population consisted of all tenth and eleventh grade students at MAN 3 Pekanbaru in the academic year 2024/2025. The total population included 18 classes with an estimated average of 36 students per class, resulting in a population of approximately 639 students.

This population includes students from various academic programs such as Olimpiade, Riset, Robotik, Programer, Multimedia, Agama, and others. These students represent a diverse

academic and technological background, making them suitable for a survey on the use of generative AI in English language learning.

Table III.1

The Population of Tenth and Eleventh Grade Students of MAN 3 Pekanbaru

No	Class	Number of Students
1	X.1 Olimpiade	36
2	X.2 Riset 1	36
3	X.3 Riset 2	34
4	X.4 Robotik	34
5	X.5 Programer	31
6	X.6 Internasional	36
7	X.7 Multimedia 1	35
8	X.8 Multimedia 2	36
9	X.9 Agama	36
10	XI BioKes 1	38
11	XI BioKes 2	36
12	XI Teknika 1	37
13	XI Teknika 2	37
14	XI Ekonomika 1	37
15	XI Ekonomika 2	36
16	XI SosHum 1	36
17	XI SosHum 2	36
18	XI Agama	32
	Total	**639**

(Source: MAN 3 Pekanbaru 2024/2025)

2. Sample of the Research

In this study, the researcher employed a voluntary response sampling technique to select participants from grades X and XI at MAN 3 Pekanbaru. The total population consisted of 639 students across both grades. Instead of selecting students randomly, the

researcher distributed the questionnaire to all students within the target population through Google Form, giving each student an equal opportunity to participate. However, only those who willingly responded were included in the sample. As a result, 417 students completed the questionnaire and became the respondents in this study. This approach was chosen due to practical considerations, such as time limitations and the accessibility of online survey methods. Although this method did not ensure complete randomness, it was commonly used in educational research to gather data efficiently and ethically[67]. Among the 417 respondents, 10 students reported that they had never used generative AI tools. This sampling method allowed the researcher to obtain relevant data regarding students' use, perception, and experience with generative AI in the context of English language learning.

This sample was considered sufficient to provide a reliable overview of students' use and perception of generative AI tools in learning English at MAN 3 Pekanbaru.

E. Research of Variables

1. Independent Variable

a. X1 = Gender

b. X2 = Age

[67] Creswell, J. W. (2012). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed.). Boston: Pearson Education, Inc.; Ary, D., Jacobs, L. C., Sorensen, C. K.

c. X3 = Grade

d. X4 = Training Experience

2. Mediating Variables

a. M1 = Attitudes Toward AI

b. M2 = Skills in Using AI

3. Dependent Variable (Frequency of Using AI)

F. The Technique of Data Collection

1. Technique of Collectiong Data

In this study, the researcher used a questionnaire as the primary instrument to collect data. The questionnaire is considered one of the most widely used and effective tools for gathering structured information, especially numerical data[68]. It is also advantageous because it can be distributed without the presence of the researcher and is relatively easy to analyze. The primary data collection instrument used in this research was a structured questionnaire adapted from the HEPI/Kortext Student AI Survey 2025 developed by Josh Freeman. The original instrument was designed to assess students' frequency of AI use, types of tools used, perceived skills, attitudes, and views on institutional policies. For this study, the questionnaire was revised to suit the educational and cultural context of Indonesian Islamic senior high school students. It consisted of

[68] Wilson and McLean (1994), as cited in Cohen, L., Manion, L., & Morrison, K. (2000). Research Methods in Education (5th ed.). London: RoutledgeFalmer.

53 items, distributed via Google Forms, and had been translated and validated through a pilot study to ensure clarity and relevance for the target population[69].

Given that this research is a descriptive quantitative study, the use of a questionnaire is suitable for collecting students' responses regarding their use, experiences, and perceptions of generative AI tools such as ChatGPT, Gemini, or QuillBot. The structured format allows for consistent data collection across a large number of respondents at MAN 3 Pekanbaru.

The questionnaire consisted of Likert-scale items designed to explore various aspects of students' engagement with generative AI. These aspects included the frequency and purpose of AI use, perceived benefits in language learning, students' attitudes and concerns toward AI tools, and the extent of institutional support they experienced. Each item was carefully constructed based on the research objectives and adapted from existing validated instruments used in previous studies to enhance the validity and reliability of the instrument[70].

[69] Freeman, J. (2025). Student Generative AI Survey 2025. HEPI Policy Note 61. Higher Education Policy Institute (HEPI).
[70] Creswell, J. W. (2012). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed.). Boston: Pearson Education

Given that this study applied a descriptive quantitative approach, the use of a questionnaire was deemed appropriate to gather standardized responses from a large sample of students. This method facilitated the systematic collection of numerical data, which allowed the researcher to identify patterns, tendencies, and general perceptions related to the use of generative AI tools such as ChatGPT, Gemini, Grammarly, and QuillBot in English language learning. The structured nature of the questionnaire ensured consistency in responses and enabled statistical analysis. Furthermore, this approach was efficient for reaching a broad population of students at MAN 3 Pekanbaru, thereby increasing the representativeness of the data and the credibility of the findings.

Table III.2
Number of Questionnaire Items for each Strategy

No	Sections of the Questionnaire	Item Numbers	Total Items
1	Background Information (Informasi Diri)	1–3	3
2	Initial Experience Using AI	4–8	5
3	Frequency of AI Use in Learning English	9–20	12
4	Types and Purpose of AI Tools Used	21–22	2
5	Student's AI Competence in English Learning	23–31	9
6	Attitudes toward AI Use in English Learning	32–49	18
7	Evaluation of Questionnaire Completion	50–53	4
	Total		**53**

2. Procedure of collecting the data

The data for this research were collected using a questionnaire. The researcher distributed a structured questionnaire consisting of 53 items, adapted from the Student Generative AI Survey 2025 by Josh Freeman, published in HEPI Policy Note 61, February 2025, as well as other validated instruments from previous studies. The questionnaire was administered through Google Form and was designed to investigate students' use, perception, and experience of using Generative Artificial Intelligence (GenAI). To collect reliable data in this study, several rating scales were applied to measure various aspects of students' interaction with generative AI tools in English language learning at MAN 3 Pekanbaru. Each scale was constructed to capture specific dimensions such as usage frequency, skill competence, attitudes, and the overall experience of completing the questionnaire. The tables below present the rating scales that were used in the questionnaire.

Table III.3
Frequency Scale for AI Use in English Learning

Scale	Category
1	Never
2	Rarely
3	Sometimes
4	Often
5	Very Often

Adopted from : Johnson and Christensen (2014)

To explore students' attitudes and perceptions about using AI in English language learning, the study employed a Likert scale that captured the level of agreement with several attitude-related statements:

Table III. 4
Attitude Scale toward the Use of AI

Scale	Response
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Adopted from : McMillan (2016)

Students' perceived ability to utilize AI tools in learning activities was measured using the following five-point competency scale. This section evaluated skills such as analyzing AI feedback, adjusting learning strategies, and applying information effectively:

Table III. 5
Skill Competency Scale in Using AI

Scale	Proficiency Level
1	Very Poor
2	Poor
3	Fair
4	Good
5	Very Good

Adopted from : Hyun (2012)

To evaluate the clarity, accessibility, and overall difficulty of the questionnaire, students were asked to respond using the following scale:

Table III. 6
Scale for Evaluating Questionnaire Experience

Scale	Description
1	Very Difficult
2	Quite Difficult
3	Neutral
4	Quite Easy
5	Very Easy

Adopted from : Johnson & Christensen (2014).

The tables above summarized the structure and distribution of the research instruments used to collect data from students at MAN 3 Pekanbaru. Each item in the questionnaire was carefully designed to align with the research variables and objectives. The organization of the instrument ensured clarity and consistency for respondents in providing their answers. These instruments served as the primary tool to measure students' use, perception, and skills related to generative AI in English learning. After collecting the responses, the researcher proceeded with data analysis using appropriate quantitative methods to interpret the results.

3. Validity and Reliability

a. Validity

Validity referred to the extent to which a method accurately measured what it was intended to measure. When a study had high validity, it meant that the results reflected actual characteristics, properties, and variations within the physical or social context. One of the indicators of a valid measurement was high reliability. Validity aimed to ensure that an instrument was meaningful, logically sound, and capable of producing conclusions that

accurately represented the targeted population[71]. In this study, the researcher used an instrument adapted from Oxford, which had already been tested and proven valid for examining language learning strategies[72].

Table III. 7
Validity

	Age (X2)	Attitudes toward AI (M1)	Frequency of using AI (Y)	Gender (X1)	Grade (X3)	Skills in using AI (M2)	Training experience (X4)
M 1.12		.789					
M 1.13		.778					
M 1.14		.741					
M 1.3		.716					
M 1.5		.791					
M 1.7		.822					
M 1.8		.803					
M 2.1						.781	
M 2.2						.817	
M 2.3						.810	
M 2.4						.771	
M 2.5						.798	
M 2.6						.792	
M 2.7						.810	
M 2.8						.803	
M 2.9						.812	
X1				1.000			
X2	1.000						
X3					1.000		
X4							1.000
Y.10			.804				
Y.11			.794				
Y.12			.748				
Y.2			.741				
Y.3			.743				
Y.4			.791				
Y.5			.781				
Y.6			.796				
Y.7			.737				
Y.8			.812				
Y.9			.776				

[71] Creswell, J. W. (2012). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed.). Boston: Pearson Education

[72] Oxford, R. L. (1990). Language Learning Strategies: What Every Teacher Should Know. New York: Newbury House.

b. Reliability

Brown explained that reliability refers to the precision of a measurement. This accuracy is demonstrated when a test yields consistent results across different occasions, tools, or groups of participants[73]. In other words, a reliable instrument provides stability and consistency in measuring what it intends to assess. Consistent outcomes indicate that the tool functions effectively regardless of variations in conditions. In this study, the researcher employed a questionnaire adapted from Oxford, which had been proven to be a reliable instrument in previous research.

Reliability testing was conducted to assess the consistency of the measurement instrument. Specifically, it addressed whether the instrument yielded stable and dependable results when used repeatedly. If a measuring tool produced relatively consistent outcomes across multiple applications to similar conditions, it could be considered reliable. An instrument was deemed reliable if it consistently generated the same data when used multiple times to assess the same object. In this study, the researcher employed the Cronbach's Alpha formula to evaluate the reliability of the instrument, as detailed below:

[73] Brown, H. D. (2003). Language Assessment: Principles and Classroom Practices. New York: Pearson Education

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2}\right)$$

Information :

α = Reliability Coefficient Alph

K = Number of question items

$\sum \sigma^2 b$ = Number of grain Variantd

$\sigma^2 b$ = Total Variance

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2}\right)$$

$$0.933 = \frac{14}{13}\left(1 - \frac{\sum \sigma b2}{\sigma t2}\right)$$

$$0.933 \text{ x } \frac{14}{13} = 1 - \frac{\sum \sigma b2}{\sigma t2}$$

$$0.865 = 1 - \frac{\sum \sigma b2}{\sigma t2}$$

$$\frac{\sum \sigma b2}{\sigma t2} = 1 - 0.865 = \mathbf{0.135}$$

Thus, the reliability coefficient obtained :

α = 0.933

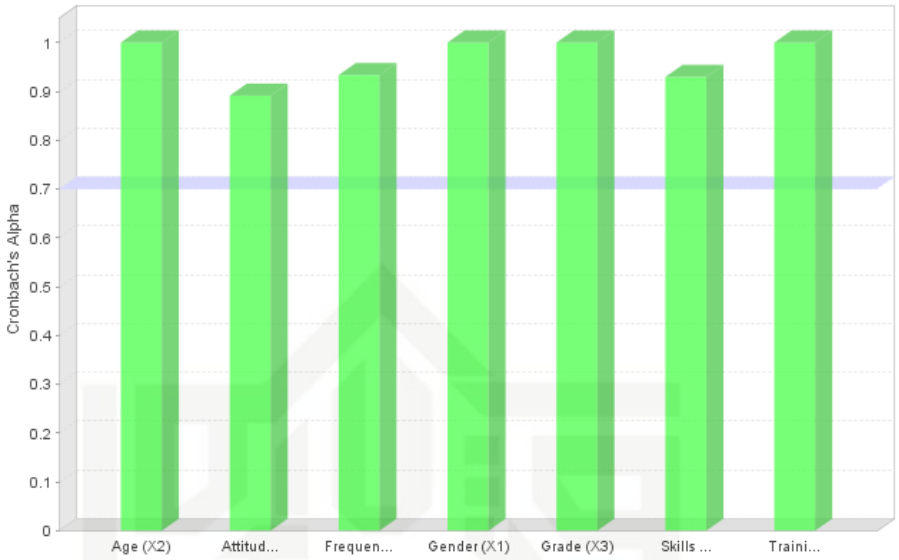
Thus, the reliability coefficient obtained was 0.933 for the dependent variable “Frequency of Using AI” (Y), 0.891 for the mediating variable “Attitudes toward AI” (M1), and 0.929 for the mediating variable “Skills in Using AI” (M2). These values fell into

the category of very highly reliable, as they exceeded the standard threshold of 0.90 for Cronbach's Alpha. This indicated that the questionnaire items used to measure each construct were consistent and dependable in capturing the intended variables. Therefore, the instrument used in this research was deemed reliable and suitable for further analysis.

Table III.8
Construct Reliability and Convergent Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Age (X2)	**1.000**	**1.000**	**1.000**	**1.000**
Attitudes toward AI (M1)	**.891**	**.897**	**.915**	**.605**
Frequency of using AI (Y)	**.933**	**.934**	**.943**	**.601**
Gender (X1)	**1.000**	**1.000**	**1.000**	**1.000**
Grade (X3)	**1.000**	**1.000**	**1.000**	**1.000**
Skills in using AI (M2)	**.929**	**.931**	**.941**	**.639**
Training experience (X4)	**1.000**	**1.000**	**1.000**	**1.000**

Chart III. 1
Cronbach's Alpha



Based on the output from the SmartPLS software, the results demonstrated that all constructs used in the study had excellent reliability. Specifically, the independent variables Gender (X1), Age (X2), Grade (X3), and Training Experience (X4) each recorded a Cronbach's Alpha of 1.000, indicating perfect internal consistency. The mediating variable Skills in Using AI (M2) achieved a Cronbach's Alpha of 0.929, while the dependent variable Frequency of Using AI (Y) recorded a Cronbach's Alpha of 0.936.

These results fall into the category of "Very Highly Reliable", according to Cohen, Manion, and Morrison[74], who classify reliability levels as follows:

[74] Cohen, L., Manion, L., & Morrison, K. (2007). Research Methods in Education (6th ed.). London: Routledge

Table III.9
The Level of Reliability

No	Reliability Coefficient	Category
1	> 0.90	Very Highly Reliable
2	0.80 – 0.90	Highly Reliable
3	0.70 – 0.79	Reliable
4	0.60 – 0.69	Minimally Reliable
5	< 0.60	Unacceptably Low Reliability

(Cohen et al., 2007)

Thus, it can be concluded that the research instrument used in this study was very highly reliable, ensuring the consistency of student responses in measuring the constructs related to the use, frequency, and skills in generative AI. The high reliability further supports the credibility and trustworthiness of the collected data and allows for valid statistical analysis in the subsequent stages of the research.

G. Techniques of Analyzing the Data

In this study, the researcher applied a quantitative approach with Structural Equation Modeling (SEM) using SmartPLS version 3 to analyze the relationships among variables. SEM-PLS was selected because it was suitable for predictive models and could handle complex relationships among multiple independent, mediating, and dependent variables simultaneously. This method was appropriate to measure the extent to which independent variables (gender, age, grade level, and training experience) and mediating variables (attitudes toward AI and skills in using AI)

influenced the dependent variable (frequency of using AI) among students at MAN 3 Pekanbaru.

The analysis procedure began with descriptive statistics to present the demographic profile of the respondents and the distribution of their responses. Descriptive statistics were used to calculate frequencies and percentages of each response in the questionnaire. The percentage was calculated using the formula:

$$\mathbf{P = (f / N) \times 100\%}$$

Where P is the percentage, f is the number of respondents who selected a particular answer, and N is the total number of respondents.

Next, the researcher proceeded with the measurement model evaluation (outer model) to assess the reliability and validity of the constructs. This included testing indicator reliability using outer loadings (> 0.7), internal consistency reliability using Composite Reliability (CR) (> 0.7), and convergent validity using Average Variance Extracted (AVE) (> 0.5). Discriminant validity was examined using Fornell-Larcker criterion, ensuring that the square root of the AVE for each construct exceeded the correlations with other constructs.

The reliability and validity formulas used in SmartPLS 3 were based on the following:

Composite Reliability (CR):

$$CR = (\Sigma\lambda)^2 / [(\Sigma\lambda)^2 + \Sigma(1 - \lambda^2)]$$

Average Variance Extracted (AVE):

$$AVE = \Sigma(\lambda^2) / n$$

Where λ represents the loading of each indicator and n is the number of indicators.

After ensuring the adequacy of the measurement model, the researcher analyzed the structural model (inner model) to examine the relationships among latent variables. This included testing the path coefficients, the R-squared (R^2) value to indicate the level of variance explained by the model, and the t-statistics and p-values through bootstrapping with 5000 resamples to assess the significance of the paths. To assess the mediating effect of attitudes toward AI (M1) and skills in using AI (M2), the researcher also calculated the Variance Accounted For (VAF) using the formula:

VAF = (Indirect Effect / Total Effect) × 100%

The VAF interpretation is as follows:

- VAF < 20% = No mediation

- 20% ≤ VAF ≤ 80% = Partial mediation

- VAF > 80% = Full mediation

The final model evaluation included Goodness-of-Fit (GoF) measures such as the SRMR (Standardized Root Mean Square

Residual), which should be less than 0.08 to indicate a good model fit.

All the statistical procedures in this research were conducted using Smart PLS version 3, which provided comprehensive output for both measurement and structural models. The results helped to answer the research questions regarding how students' demographic factors, attitudes, and skills influenced their use of generative AI tools in learning English.

CHAPTER V

CONCLUSION AND SUGGESTION

A. Conclusion

This study explored the use of Generative AI tools among students at MAN 3 Pekanbaru, focusing on the frequency of use, students' attitudes, skills in using AI, and the influence of demographic and training-related variables. Based on data collected from 417 students and analyzed using SmartPLS, several significant findings were identified.

1. Students' attitudes toward Generative AI and their skills in using AI were found to be the strongest predictors of AI usage frequency. Students with positive perceptions and higher skills were more likely to frequently utilize AI tools in their English learning activities. The total effect analysis confirmed that both attitude ($\beta = 0.347$, $p = 0.000$) and skill ($\beta = 0.232$, $p = 0.000$) had a significant positive influence on AI use.
2. Gender significantly influenced both skills and frequency of use. Male students showed lower usage and lower skill levels compared to female students. This gender-based variance was statistically significant (Gender → Frequency of Use: $\beta = -0.238$, $p = 0.000$; Gender → Skills: $\beta = -0.167$, $p = 0.001$), indicating that further support may be necessary to balance access and competency across genders.

3. Training experience played a mediating role. Although it had no significant direct effect on frequency, its indirect effects via attitudes and skills were important. Students who had AI-related training demonstrated better skills ($\beta = 0.168$, $p = 0.000$) and had a higher likelihood of using AI, especially when supported by favorable attitudes. The total effect of training on usage was statistically significant ($\beta = 0.127$, $p = 0.013$), suggesting that training interventions can improve AI adoption among students.
4. Age and grade level were not significant predictors of AI usage, attitudes, or skills. This implies that across different age groups and school levels (grade X and XI), students shared similar behaviors and experiences regarding AI, highlighting the uniformity of exposure and access within the institution.

Overall, the study emphasizes the importance of cultivating positive attitudes, enhancing students' technical skills, and providing structured training to promote the responsible and effective integration of Generative AI in education, especially for EFL contexts.

B. Suggestion

Related to the result of this research, the researcher offers some suggestions as follows:

1. **For Educators and School Administrators:**

It is recommended to integrate AI literacy into the curriculum, particularly through training workshops that enhance students' practical skills and responsible use of AI. Ensuring gender inclusivity and encouraging participation from both male and female students is crucial.

2. **For Students:**

   Students are encouraged to engage more actively with AI tools to support their English learning. Developing both a critical and open-minded attitude toward AI technologies will allow them to benefit fully from these tools while remaining aware of their limitations and ethical considerations.

3. **For Policy Makers and the Ministry of Religious Affairs:**

   There is a need to provide access to AI resources and training in madrasahs across Indonesia. Support for digital infrastructure and professional development programs for teachers will ensure that AI adoption is equitable and beneficial across diverse educational settings.

4. **For Future Researchers:**

   Future studies could examine other factors influencing AI use, such as motivation, parental support, or socio-economic status. Moreover, qualitative studies can enrich our understanding of students' lived experiences, ethical concerns, and the cognitive impact of AI tools in language learning.

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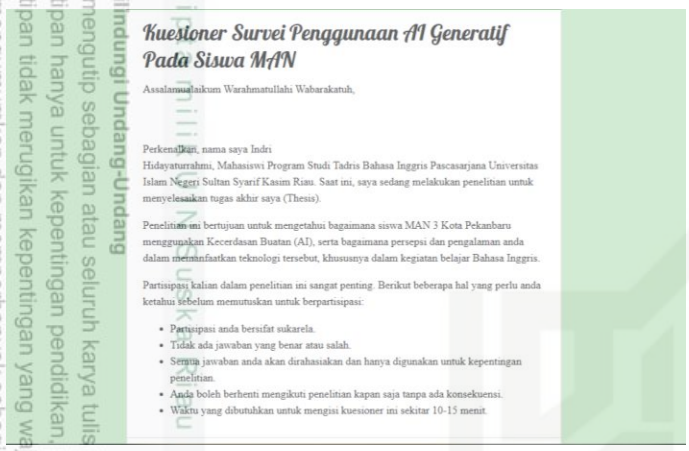
APPENDIX I

INSTRUMENT IN GOOGLE FORM



Kuestoner Survei Penggunaan AI Generatif Pada Siswa MAN

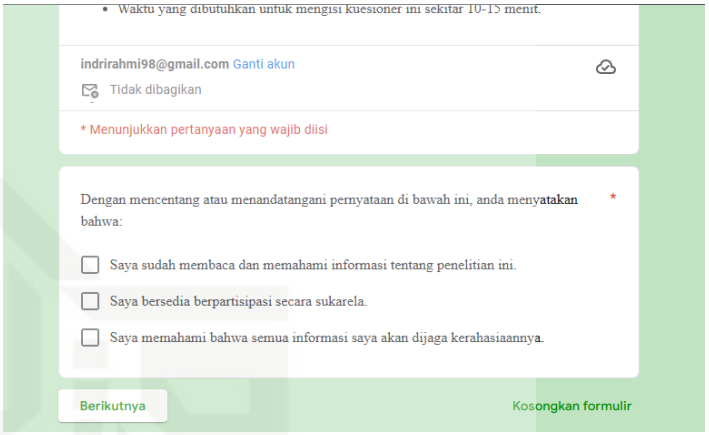
Assalamualaikum Warahmatullahi Wabarakatuh,

Perkenalkan, nama saya Indri Hidayaturrahmi, Mahasiswi Program Studi Tadris Bahasa Inggris Pascasarjana Universitas Islam Negeri Sultan Syarif Kasim Riau. Saat ini, saya sedang melakukan penelitian untuk menyelesaikan tugas akhir saya (Thesis).

Penelitian ini bertujuan untuk mengetahui bagaimana siswa MAN 3 Kota Pekanbaru menggunakan Kecerdasan Buatan (AI), serta bagaimana persepsi dan pengalaman anda dalam memanfaatkan teknologi tersebut, khususnya dalam kegiatan belajar Bahasa Inggris.

Partisipasi kalian dalam penelitian ini sangat penting. Berikut beberapa hal yang perlu anda ketahui sebelum memutuskan untuk berpartisipasi:

- Partisipasi anda bersifat sukarela.
- Tidak ada jawaban yang benar atau salah.
- Semua jawaban anda akan dirahasiakan dan hanya digunakan untuk kepentingan penelitian.
- Anda boleh berhenti mengikuti penelitian kapan saja tanpa ada konsekuensi.
- Waktu yang dibutuhkan untuk mengisi kuesioner ini sekitar 10-15 menit.



- Waktu yang dibutuhkan untuk mengisi kuesioner ini sekitar 10-15 menit.

indrirahmi98@gmail.com Ganti akun

Tidak dibagikan

* Menunjukkan pertanyaan yang wajib diisi

Dengan mencentang atau menandatangani pernyataan di bawah ini, anda menyatakan bahwa: *

- [ ] Saya sudah membaca dan memahami informasi tentang penelitian ini.
- [ ] Saya bersedia berpartisipasi secara sukarela.
- [ ] Saya memahami bahwa semua informasi saya akan dijaga kerahasiaannya.

Berikutnya

Kosongkan formulir

BAGIAN 1 :

INFORMASI DIRI

Nama: *

Jawaban Anda

Jenis Kelamin: *

- ◯ Laki-laki
- ◯ Perempuan

Jenis Kelamin: *

- ◯ Laki-laki
- ◯ Perempuan

Kelas : *

Pilih

Usia:_____ Tahun *

GENDER (X 1)	GRADE (X 3)	AGE (X 2)	Column1	Seberapa sering andamen	TRAINING EXPRIENCES (X	Y. 1	Y. 2	Y. 3	Y. 4	Y. 5	Y. 6	Y. 7	Y. 8	Y. 9	Y. 10	Y. 11	Y. 12	M 2. 1	M 2. 2	M 2. 3	M 2. 4	M 2. 5	M 2. 6	M 2. 7	M 2. 8	M 2. 9	M 1. 1
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5	3	4	4	3	3	3	3	2	4	3	3	3	4	3	3	2	
4	2	3	4	2	4	4	2	4	3	4	5	3	4	1	1	1	
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
4	4	4	3	3	3	3	2	4	4	3	3	3	2	3	3	3	

APPENDIX III

DOCUMENTATION