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### ABSTRACT

This paper attempts to fill the gap in factual evidence that exists in the records of the evolving role of AI in tertiary education worldwide, specifically regarding the rates of AI adoption in the University of Papua New Guinea (UPNG). It presents the findings of the online gen-AI Undergraduate UPNG Student Survey conducted in October-November 2025 which explored students' AI awareness/knowledge, practices and attitudes towards AI.

Survey participants, 949 undergraduate (UG) students from both Waigani and Taurama UPNG campuses, represent the behavior and attitudes of the UPNG UG student population with >99.9% confidence within  $\pm 5\%$  margin. With regard to demographics, Gender Parity Index (GPI) was estimated to be lower than expected, at 0.54; most students come from low-income backgrounds. About 90% own smartphones and laptops, though device performance is often low; wearables and desktops are uncommon.

With regard to student AI awareness and attitudes towards it, survey revealed that students are curious about AI and confident that they can learn to use it yet knowledge is uneven; only 10% have attended AI workshops and 64% want university-run AI training.

AI adoption rates among UG students are growing exponentially: 56% use AI regularly for study; 70% recognize AI may be inaccurate, and only 13% "fully trust" AI.

Primary reasons for AI use were cited as explaining concepts (79%), summarizing readings (74%), editing (64%), and saving time (64%). Specific AI tools students currently use were identified as ChatGPT (80%), Microsoft Copilot (44%), and Google Gemini (42%); other tools are used at lower rates.

Students seem to be confused about the ethical implications of AI use: 71% view submitting AI-generated work as cheating; nonetheless, 33% have used AI to generate their assignments. This is why 77% of UPNG UG students report mixed emotions (including guilt) about AI use and 96% want clear institutional guidelines. This is a major insight gained, as the current UPNG UG Assessment and Accreditation policy (AAP) mentions AI plagiarism but has no operational clarity. Another insight gained from this survey is that explosive growth of AI use by students devalues traditional student assessment practices (such as home assignments) and suggests using in-class and viva assessments to evaluate students' understanding of the course content.

**Key words:** Artificial Intelligence (AI), AI adoption, AI tools, University of Papua New Guinea (UPNG), Gen-AI Survey, Student Awareness, Student Attitudes, Device Ownership

## I. INTRODUCTION

Artificial intelligence (AI) tsunami is sweeping across the world with incredible speed, transforming the way people live, communicate and work. Knowledge is Power, and the immediate access to information the AI tools provide enables strategic planning and action, creating new knowledge-based economies. In the domain of higher education, the changes in sourcing and obtaining information are singularly consequential, as it is universities and colleges that produce the expertise to drive the growth of knowledge-based economies. In a couple of years, what started as an amusing “Chat GPT” curiosity that filled our conversations and social media posts with AI jokes and poetry, has totally transformed the way students learn, how faculty teach, and how institutions operate.

These new realities have necessarily captured the attention of educators, social scientists and governments, resulting in numerous studies, raising concerns regarding existing curriculum design and assessment policies. For example, Peter Jacobsen’s article “Artificial Intelligence Will Change Higher Ed for the Better” contends that AI will make universities more dynamic, forcing a radical change in course content delivery and student assessment [1]. “When homework can be entirely automated by AI, it won’t make any sense for it to be a significant grade driver,” he argues. Therefore, he sees reverting to classic in-class and viva examinations as the only way to objectively evaluate the extent of students’ understanding in this “brave new world of AI”.

Alarm bells are also ringing with regard to the long-term effects of over reliance on AI [2; 3]. Yizhou Fan et al. warn against “metacognitive laziness” leading to the stunting of critical thinking and problem-solving skills – just like the use of calculators has blunted the up to recently common mental multiplication and logarithmic calculation abilities, so AI tools tend to blunt the logical, step-by-step sequence of thought in academic inquiry by providing instant information upon request.

The ethics of using AI-generated information, as well the reliability of artificial intelligence are also debatable, with no clear policy regulating AI integration into university curriculum. All these yet unknowns are being investigated in a multitude of student (and faculty) surveys, exploring the knowledge, competencies and attitudes of AI tool users in institutions of higher learning [4-21]. In the true spirit of AI revolution, Campbell Academic Technology Services (A service of Campbell University ITS) published a meta summary report titled “AI in Higher Education: A Meta Summary of Recent Surveys of Students and Faculty” [22]. It was published on their website (<https://sites.campbell.edu/academictechnology/2025/03/06/ai-in-higher-education-a-summary-of-recent-surveys-of-students-and-faculty/#comment-32>) on March 6, 2025. Google Gemini Advanced Pro 1.5 was used to data-mine multiple recent gen-AI surveys, conducted in 2024 and 2025 which captured key perspectives from both students and faculty during the initial stages of AI adoption. This overview is a practical example of how AI tools can support academic research, providing essential insights for informed and effective AI integration into university programs, among them:

1. A significant majority of students around the world are now using AI in their studies, with AI adoption rates increasing exponentially - for example, 92% of surveyed undergraduate students in the UK reported using AI in 2025, as compared to 66% a few months earlier, in 2024 [22]
2. Students use a variety of AI tools to support their studies, “with ChatGPT emerging as the most popular, followed by Grammarly and Microsoft Copilot” [Ibid.].
3. They use these new tools for different reasons, including searching for information, checking grammar, summarizing/paraphrasing texts, explaining concepts, brainstorming new research ideas, et cetera.
4. Despite the popularity and widespread use of AI, many students (53% in one of the cited surveys) expressed concerns about its accuracy, reliability, and ethical implications for academic integrity. The latter include misuse of AI tools to cheat on assignments or exams by, for example, generating essays automatically, without their own understanding or effort.
5. Students were also concerned about the AI potential to impair their critical thinking and problem-solving skills, so necessary for success in the modern knowledge-based (and now AI-driven) world.
6. In contrast to the explosion of AI usage among students, the Gemini report revealed a much more limited uptake and proficiency in the use of AI tools among faculty. “This disparity between faculty and student AI usage raises questions about how institutions can effectively support faculty in adopting and integrating AI in ways that enhance teaching and learning” [22].
7. This disconnect between high AI usage and low AI competency among students and (to a much larger extent) faculty underscores the urgent need for AI literacy initiatives in higher education. Institutions need to invest in training and resources to help students and educators develop the digital competencies needed to thrive in an AI-driven world.

Noting the profound impact of AI on higher education, the Gemini report also highlights a host of associated challenges institutions face as they adopt AI platforms while trying to balance the pros and cons of AI tool use in learning and teaching. It provides valuable insights into the current state of AI adoption, competencies, and attitudes among students and faculty at many universities in the US, Europe and Asia. However, there is not much published work on AI adoption in Papua New Guinea, apart from a paper “Assessing the influence of generative AI tools on students’ learning outcomes in institutions of higher learning” [23]. Yana Elius of UPNG also discusses the advent of AI in an interesting article published on his website <sup>1</sup> where he makes a noteworthy statement: “As PNG’s universities navigate this new era, one truth is clear: AI is here to stay. The challenge is ensuring that it serves as an enabler of learning, not a replacement for it” [24].

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<sup>1</sup> Yana Elius’ website: <https://pnginformsociety.wordpress.com/>

We hope our study will add a few pixels to the emerging overall picture of AI adoption generally – and, specifically, in the University of Papua New Guinea (UPNG).

## II. AIMS & OBJECTIVES

The major aim of the present study is to assess the status of AI adoption among undergraduate students in the UPNG.

The objectives are to use the data obtained to evaluate the current state of AI adoption, competencies, and attitudes among the students. Specifically, the data obtained were used to analyze the students' a) Demographics, such as gender and socioeconomic status (SES); b) Awareness of AI /Knowledge of what it is; and c) Experience of AI – their AI usage and attitudes towards it.

Due to the complexity of our aims and objectives, which require not only verifiable statistics of the target population but also measures of students' attitudes and perceptions, this can be characterized as a mixed research type project, aiming to collect both quantitative (i.e., demographics, SES status) and qualitative (i.e., attitudes and perceptions) data. Five-point Likert scale was used to measure students' opinions, attitudes, and behaviors.

## II. MATERIALS AND METHODS

We used a modification of Version 4 of the San Diego State University (SDSU) student AI survey instrument administered there in 2024<sup>2</sup> [SDSU AI Survey Instrument (v4)]. A Google Form Questionnaire was designed, maintaining the structure of the SDSU survey instrument, with similar sections on Demographics, Awareness and Experience (Please see Appendix I for the copies of the questionnaires we have used in the two campuses of UPNG, Waigani and Taurama). In October 2025, both links to the questionnaires were disseminated to all UPNG undergraduate students with the help of the Registrar's Office, UPNG.

### II. 1. Sample Size calculation:

To calculate the required sample size, we obtained the following UPNG undergraduate student population figures for both Waigani and Taurama campuses from the UPNG Information and Communication Technology (ICT) Division: A total of 5073 registered students, made up of 1267 in the School of Business and Public Policy (SBPP), 1491 in the School of Humanities and Social Sciences (SHSS), 874 in the School of Natural and Physical Sciences, 818 in the School of Law (SOL) and 623 in the School of Medicine and Health Sciences (SMHS).

Using the standard formula:  $n = N / (1 + Ne^2)$ , where 'n' is the sample size, 'N' is the population size, and 'e' is the 5% margin of error (expressed as 0.05), the calculated representative sample size obtained was **371**. Thus, a minimum of 371 responses to our survey questionnaire would be required to validate this survey findings at 95% confidence level.

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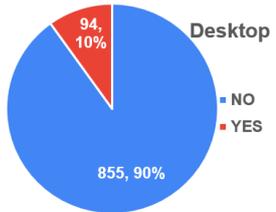
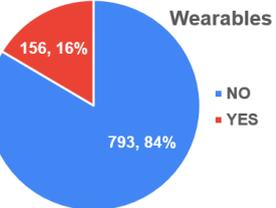
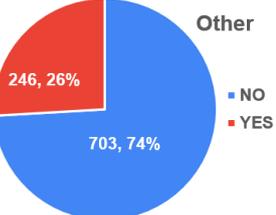
<sup>2</sup> <https://scholarworks.calstate.edu/concern/publications/qj72pf459>

Student response rate was overwhelming, indicating a high level of interest in AI: a total of 949 responses (725 from Waigani and 224 from Taurama). The sample size of 949 raises our confidence level to over 99.9% that the real value is within plus/minus 5% of the measured /surveyed value.

### III. RESULTS and DISCUSSION

#### III.1. Demographics: percent distribution

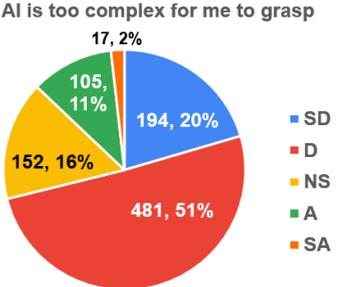
#	Table 1.A. Demographics & Background/SES	
1	All five schools are adequately represented in our sample (the School of Law has fewer registered students, which explains the lower SOL numbers).	<p>UPNG Schools</p> <ul style="list-style-type: none"> <li>SNPS: 223, 23%</li> <li>SMHS: 224, 24%</li> <li>SBPP: 188, 20%</li> <li>SHSS: 247, 26%</li> <li>SOL: 67, 7%</li> </ul>
2	Year of Study (YOS): The BSc and BA are 4-year programs; All students in Year 5 are from the School of Medicine and Health Sciences (MBBS and Pharmacy are five-year programs)	<p>YOS</p> <ul style="list-style-type: none"> <li>1st: 245, 26%</li> <li>2nd: 229, 24%</li> <li>3rd: 166, 18%</li> <li>4th: 277, 29%</li> <li>5th: 32, 3%</li> </ul>
3	Female students seem to be even more underrepresented than previous studies suggested: this is a significant finding, as these values lower the Gender Parity Index (GPI) to 0.54 (at over 99.9 % confidence level) <b>UPNG GPI = 0.54</b>	<p>GENDER</p> <ul style="list-style-type: none"> <li>F: 331, 35%</li> <li>M: 618, 65%</li> </ul>
#	Table 1.B. Socioeconomic Status (SES), measured by ownership of digital devices	
1	<b>Smart phones</b> are the most important learning tool UPNG students use, but only 41% of them are high performance devices; 58% of students own average/low quality phones, and 1% have no phones at all according to a recent survey [26].	<p>Smart phone</p> <ul style="list-style-type: none"> <li>NO: 17, 2%</li> <li>YES: 932, 98%</li> </ul>
2	This survey (99.9% CL) found that 2% of UPNG students do not own a smart phone, which is still an improvement in comparison to the 8.5% figure obtained in 2024 [25].	<p>Tablet</p> <ul style="list-style-type: none"> <li>NO: 841, 89%</li> <li>YES: 108, 11%</li> </ul>
3	<b>Laptops:</b> 90% of students own laptops (though 64% of them are average/low performance machines [25]), and 10% of students do not own a laptop.  <b>Tablets and Desktops</b> are owned by only 11% and 10% of all students, respectively. Their low popularity /percent distribution may be due to their relatively lower	<p>Laptop</p> <ul style="list-style-type: none"> <li>NO: 95, 10%</li> <li>YES: 855, 90%</li> </ul>

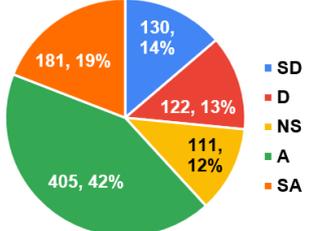
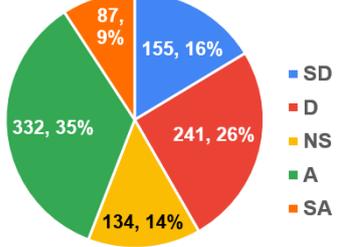
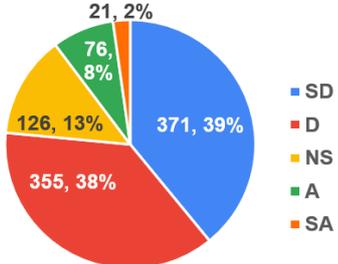
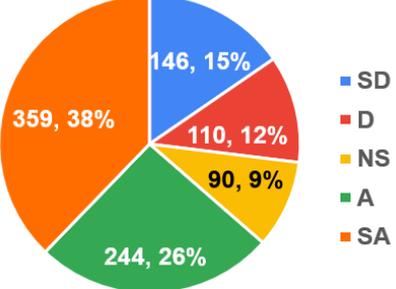
4	functionality for on-campus resident students. However, the main reason why so few students own desktops, in particular, is that only 22% of all students come from Port Moresby, while the rest (27% and 51%, respectively) come from provincial towns and remote villages [26].	 <p><b>Desktop</b></p> <ul style="list-style-type: none"> <li>NO: 855, 90%</li> <li>YES: 94, 10%</li> </ul>
4	<b>Wearables</b> – only 16% of all UPNG students report owning wearable smart devices, such as smart watches, fitness trackers, headsets, etc. This is most likely due to UPNG students’ generally low socioeconomic status (SES).	 <p><b>Wearables</b></p> <ul style="list-style-type: none"> <li>NO: 793, 84%</li> <li>YES: 156, 16%</li> </ul>
6	<b>Other smart devices</b> , such as Xboxes, video games consoles, smart speakers, etc. – 26% of all UPNG students own these; owning them is an indicator of a higher socioeconomic status (SES).	 <p><b>Other</b></p> <ul style="list-style-type: none"> <li>NO: 703, 74%</li> <li>YES: 246, 26%</li> </ul>

Our Sample Size (n = 949) is highly representative (CL > 99.9%), meaning that our findings are over 99.9% true of 95% of the entire UPNG undergraduate student population. Section 1 of our survey provides some important details of UPNG undergraduate students’ demographics and background:

1. Gender Parity Index of UPNG undergraduate student population (GPI = 0.54) is lower than the GPI of 0.6 determined in earlier studies [25; 32].
2. Less than 20% of all students come from relatively well-to-do backgrounds which enable them to own high-performance smart phones, laptops, and even wearables, such as smart watches, still considered a luxury item in PNG. A vast majority of all students come from low-income backgrounds – this is an assumption, based on their inability to obtain the absolutely necessary tech-tools for effective learning in UPNG blended curriculum.

Section 2 of our survey questionnaire explored UPNG students’ awareness of/ knowledge about AI and their attitudes and perceptions of AI use (Table 2):

<b>Table 2. Awareness/perceptions of AI</b>	
#	
1	<p style="font-size: small; margin-left: 10px;">Attitudes</p> <p>Only 13% of all students agreed/strongly agreed with the statement that “AI is too complex for me to grasp”, as opposed to an overwhelming majority (71%) who disagreed/strongly disagreed with it, indicating a high degree of enthusiasm about AI and confidence in their ability to master AI tools.</p> <div style="text-align: right;">  <p><b>AI is too complex for me to grasp</b></p> <ul style="list-style-type: none"> <li>SD: 481, 51%</li> <li>D: 194, 20%</li> <li>NS: 152, 16%</li> <li>A: 105, 11%</li> <li>SA: 17, 2%</li> </ul> </div>

2	<p>However, over a quarter of all students disagreed / strongly disagreed with the “<i>I love learning about AI</i>” statement, even though the majority (61%) agreed/ strongly agreed with it; 12% were undecided, indicating lack of knowledge about AI.</p>	<p><b>I love learning about AI</b></p>  <table border="1"> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>SD</td> <td>130</td> <td>14%</td> </tr> <tr> <td>D</td> <td>122</td> <td>13%</td> </tr> <tr> <td>NS</td> <td>111</td> <td>12%</td> </tr> <tr> <td>A</td> <td>405</td> <td>42%</td> </tr> <tr> <td>SA</td> <td>181</td> <td>19%</td> </tr> </tbody> </table>	Response	Count	Percentage	SD	130	14%	D	122	13%	NS	111	12%	A	405	42%	SA	181	19%
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3	<p>Almost half of current UPNG undergraduate students (44%) regularly discuss AI with their friends, indicating a high degree of interest in AI. 14% were not sure, and 42% disagreed/strongly disagreed with that statement, showing a low degree of interest in/awareness of AI and its explosive role in the future of higher education / society generally.</p>	<p><b>I regularly discuss AI with friends</b></p>  <table border="1"> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>SD</td> <td>155</td> <td>16%</td> </tr> <tr> <td>D</td> <td>241</td> <td>26%</td> </tr> <tr> <td>NS</td> <td>134</td> <td>14%</td> </tr> <tr> <td>A</td> <td>332</td> <td>35%</td> </tr> <tr> <td>SA</td> <td>87</td> <td>9%</td> </tr> </tbody> </table>	Response	Count	Percentage	SD	155	16%	D	241	26%	NS	134	14%	A	332	35%	SA	87	9%
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4	<p>Only 10% of students have attended seminars and/or workshops about AI. This is to be expected, given how recently the wave of AI change washed ashore in the South Pacific. Yet, general curiosity and willingness to learn about AI are evident in students’ answers to the next question:  <i>“Should the University run AI training courses for staff and students?”</i> An overwhelming majority (64%) of all students agreed/strongly agreed with this proposition; however, more than a quarter (27%) disagreed or strongly disagreed, and another 9% were not sure.</p>	<p><b>I have attended workshops about AI</b></p>  <table border="1"> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>SD</td> <td>371</td> <td>39%</td> </tr> <tr> <td>D</td> <td>355</td> <td>38%</td> </tr> <tr> <td>NS</td> <td>126</td> <td>13%</td> </tr> <tr> <td>A</td> <td>76</td> <td>8%</td> </tr> <tr> <td>SA</td> <td>21</td> <td>2%</td> </tr> </tbody> </table>	Response	Count	Percentage	SD	371	39%	D	355	38%	NS	126	13%	A	76	8%	SA	21	2%
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5	<p>This means that over a third of students have not yet realized how important AI skills are becoming in our AI-driven world.</p>	<p><b>The Uni should run AI training courses</b></p>  <table border="1"> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>SD</td> <td>146</td> <td>15%</td> </tr> <tr> <td>D</td> <td>110</td> <td>12%</td> </tr> <tr> <td>NS</td> <td>90</td> <td>9%</td> </tr> <tr> <td>A</td> <td>244</td> <td>26%</td> </tr> <tr> <td>SA</td> <td>359</td> <td>38%</td> </tr> </tbody> </table>	Response	Count	Percentage	SD	146	15%	D	110	12%	NS	90	9%	A	244	26%	SA	359	38%
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Thus, with respect to UPNG undergraduate students’ perceptions and attitudes towards AI, our data revealed that an overwhelming majority of students are becoming increasingly aware of AI and its rapidly evolving role in higher education, industry and society as a whole. Sensing its significance as a potentially huge influence on their future lives, they want to learn more about it, with over 64% of them wishing the University would run AI training courses as part of their professional programs.

Section 3 of our survey further explored students’ AI attitudes, AI competences and ways of AI usage (Results obtained are discussed in Tables 3 and 4):

#	Table 3. On AI Usage, Competences and Attitudes																			
1	Over a third (37%) of UPNG UG students denied that they use AI regularly in their studies, and 7% were not sure about it; however, over half (56%) of all students admitted to regularly using AI in their studies (in sharp contrast with 2024, when first signs of AI use by students were anecdotally suspected by UPNG academics).	<p>I regularly use AI in my studies</p> <table border="1"> <tr><th>Response</th><th>Count</th><th>Percentage</th></tr> <tr><td>SA</td><td>101</td><td>11%</td></tr> <tr><td>A</td><td>427</td><td>45%</td></tr> <tr><td>NS</td><td>68</td><td>7%</td></tr> <tr><td>D</td><td>257</td><td>27%</td></tr> <tr><td>SD</td><td>96</td><td>10%</td></tr> </table>	Response	Count	Percentage	SA	101	11%	A	427	45%	NS	68	7%	D	257	27%	SD	96	10%
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2	A high number (20%) of students trust AI responses implicitly; another 10% are not sure about it, but a total of 70% agreed/strongly agreed that AI responses may not always be accurate. This shows a degree of sophistication on the part of the more experienced users.	<p>I have concerns re: AI response accuracy</p> <table border="1"> <tr><th>Response</th><th>Count</th><th>Percentage</th></tr> <tr><td>SA</td><td>75</td><td>8%</td></tr> <tr><td>A</td><td>380</td><td>40%</td></tr> <tr><td>NS</td><td>92</td><td>10%</td></tr> <tr><td>D</td><td>111</td><td>12%</td></tr> <tr><td>SD</td><td>291</td><td>30%</td></tr> </table>	Response	Count	Percentage	SA	75	8%	A	380	40%	NS	92	10%	D	111	12%	SD	291	30%
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3	Almost three quarters of all students agreed/strongly agreed (23% and 48%, respectively) that submitting AI-generated work/assignments constitutes academic fraud/cheating. A considerable proportion (8%) were not sure about it, and almost a quarter (21%) believe it is not plagiarism to submit AI responses as their own.	<p>Submitting AI-generated work is cheating</p> <table border="1"> <tr><th>Response</th><th>Count</th><th>Percentage</th></tr> <tr><td>SA</td><td>93</td><td>10%</td></tr> <tr><td>A</td><td>219</td><td>23%</td></tr> <tr><td>NS</td><td>79</td><td>8%</td></tr> <tr><td>D</td><td>103</td><td>11%</td></tr> <tr><td>SD</td><td>455</td><td>48%</td></tr> </table>	Response	Count	Percentage	SA	93	10%	A	219	23%	NS	79	8%	D	103	11%	SD	455	48%
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4	Alarm bells are ringing, however, in the minds of over 74% of our respondents who believe AI may negatively impact their ability to think critically; 6% are not sure, and 20% disagree/strongly disagree that it may do so. Thus, over a quarter of all students (26%) appear to have insufficient experience/knowledge of AI.	<p>AI impairs Critical Thinking</p> <table border="1"> <tr><th>Response</th><th>Count</th><th>Percentage</th></tr> <tr><td>SA</td><td>97</td><td>10%</td></tr> <tr><td>A</td><td>193</td><td>20%</td></tr> <tr><td>NS</td><td>55</td><td>6%</td></tr> <tr><td>D</td><td>92</td><td>10%</td></tr> <tr><td>SD</td><td>512</td><td>54%</td></tr> </table>	Response	Count	Percentage	SA	97	10%	A	193	20%	NS	55	6%	D	92	10%	SD	512	54%
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D	92	10%																		
SD	512	54%																		
5	This is another version of Question 2 in this table which received even more critical of AI responses: only 13% of students fully trust AI, while almost two thirds (63%) deny/strongly deny it. This discrepancy appears to be due to use of the word “trust”, implying a higher level of commitment.	<p>I fully trust AI</p> <table border="1"> <tr><th>Response</th><th>Count</th><th>Percentage</th></tr> <tr><td>SA</td><td>19</td><td>2%</td></tr> <tr><td>A</td><td>107</td><td>11%</td></tr> <tr><td>NS</td><td>224</td><td>24%</td></tr> <tr><td>D</td><td>349</td><td>37%</td></tr> <tr><td>SD</td><td>250</td><td>26%</td></tr> </table>	Response	Count	Percentage	SA	19	2%	A	107	11%	NS	224	24%	D	349	37%	SD	250	26%
Response	Count	Percentage																		
SA	19	2%																		
A	107	11%																		
NS	224	24%																		
D	349	37%																		
SD	250	26%																		

The main take-aways here are:

1. Exponential growth of AI use by UPNG students this year (56% of regular AI users, compared to rare anecdotal instances in 2024).
2. Ethical concerns regarding possible academic fraud/plagiarism involved in presenting AI work as their own.
3. Widespread (74%) concerns among students regarding the potentially negative AI effect on their ability to reason independently (on their critical thinking).

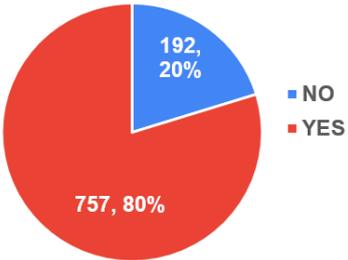
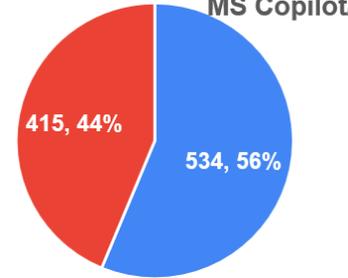
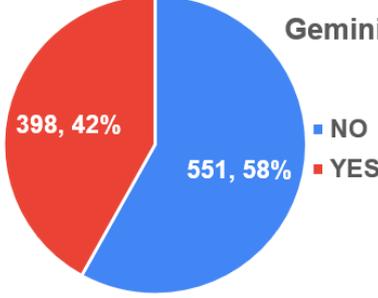
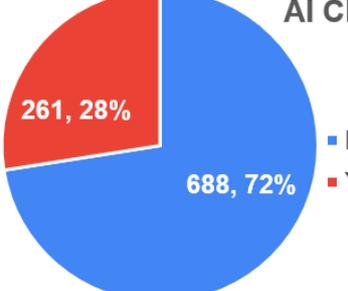
Section 4 of our survey focused on the ‘Why’s of students’ practices and purposes of AI use. Table 4 presents our findings and commentary:

#	Table 4. Students practices/ purposes of AI use																			
1	Three quarters (74%) of all students rely on AI summaries of their required readings. This practice is likely to undermine the depth of their understanding of course content; yet, AI summarizing is a widespread practice among students in UPNG, only 19% of whom denied this use of AI.	<p>I use AI to summarize texts</p> <table border="1"> <caption>Data for 'I use AI to summarize texts'</caption> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>SA</td> <td>473</td> <td>50%</td> </tr> <tr> <td>A</td> <td>226</td> <td>24%</td> </tr> <tr> <td>D</td> <td>111</td> <td>12%</td> </tr> <tr> <td>NS</td> <td>69</td> <td>7%</td> </tr> <tr> <td>SD</td> <td>70</td> <td>7%</td> </tr> </tbody> </table>	Response	Count	Percentage	SA	473	50%	A	226	24%	D	111	12%	NS	69	7%	SD	70	7%
Response	Count	Percentage																		
SA	473	50%																		
A	226	24%																		
D	111	12%																		
NS	69	7%																		
SD	70	7%																		
2	Most students (79%) use AI to explain concepts. This figure is undoubtedly higher, as any Google search now provides an AI overview. However, some students (16%) denied using AI for this purpose, while 5% responded that they are not sure.	<p>I use AI to explain concepts</p> <table border="1"> <caption>Data for 'I use AI to explain concepts'</caption> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>SA</td> <td>323</td> <td>34%</td> </tr> <tr> <td>A</td> <td>430</td> <td>45%</td> </tr> <tr> <td>D</td> <td>91</td> <td>10%</td> </tr> <tr> <td>NS</td> <td>46</td> <td>5%</td> </tr> <tr> <td>SD</td> <td>59</td> <td>6%</td> </tr> </tbody> </table>	Response	Count	Percentage	SA	323	34%	A	430	45%	D	91	10%	NS	46	5%	SD	59	6%
Response	Count	Percentage																		
SA	323	34%																		
A	430	45%																		
D	91	10%																		
NS	46	5%																		
SD	59	6%																		
3	Over half (54%) of students denied/strongly denied using AI to generate their assignments; 13% were not sure if they did; however, despite widespread ethical concerns regarding this practice, one third (33%) of all students admitted to this practice. Changes in academic assessment strategies seem inevitable in view of this situation.	<p>I use AI to generate assignments</p> <table border="1"> <caption>Data for 'I use AI to generate assignments'</caption> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>262</td> <td>28%</td> </tr> <tr> <td>D</td> <td>334</td> <td>35%</td> </tr> <tr> <td>NS</td> <td>129</td> <td>13%</td> </tr> <tr> <td>SD</td> <td>180</td> <td>19%</td> </tr> <tr> <td>SA</td> <td>44</td> <td>5%</td> </tr> </tbody> </table>	Response	Count	Percentage	A	262	28%	D	334	35%	NS	129	13%	SD	180	19%	SA	44	5%
Response	Count	Percentage																		
A	262	28%																		
D	334	35%																		
NS	129	13%																		
SD	180	19%																		
SA	44	5%																		
4	A vast majority (64%) of students use AI to save time; 11% are not sure, and a quarter disagree/ strongly disagree (15% and 10%, respectively) with the assertion that they use AI to save time. A possible explanation could be that their poor digital skills would make using AI more time-consuming than not using it at all.	<p>I use AI to save time</p> <table border="1"> <caption>Data for 'I use AI to save time'</caption> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>431</td> <td>45%</td> </tr> <tr> <td>D</td> <td>144</td> <td>15%</td> </tr> <tr> <td>NS</td> <td>101</td> <td>11%</td> </tr> <tr> <td>SD</td> <td>94</td> <td>10%</td> </tr> <tr> <td>SA</td> <td>179</td> <td>19%</td> </tr> </tbody> </table>	Response	Count	Percentage	A	431	45%	D	144	15%	NS	101	11%	SD	94	10%	SA	179	19%
Response	Count	Percentage																		
A	431	45%																		
D	144	15%																		
NS	101	11%																		
SD	94	10%																		
SA	179	19%																		
5	A similar percent distribution of AI users was obtained for editing purposes: 64% agreed/strongly agreed (39% and 25%, respectively) with the statement “I use AI to edit my work”; however, more than a quarter (27%) of students denied using AI for editing purposes.	<p>I use AI to edit my work</p> <table border="1"> <caption>Data for 'I use AI to edit my work'</caption> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>375</td> <td>39%</td> </tr> <tr> <td>D</td> <td>151</td> <td>16%</td> </tr> <tr> <td>NS</td> <td>83</td> <td>9%</td> </tr> <tr> <td>SD</td> <td>104</td> <td>11%</td> </tr> <tr> <td>SA</td> <td>236</td> <td>25%</td> </tr> </tbody> </table>	Response	Count	Percentage	A	375	39%	D	151	16%	NS	83	9%	SD	104	11%	SA	236	25%
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Thus, UPNG students use AI mainly to explain complex concepts, summarize their readings, edit their work, and to save time. However, despite some ethical concerns regarding submitting AI-generated essays/assignments as their own work, one third (33%) of all students admitted to doing this. This growing trend, as well as using AI to summarize required readings, requires a radical reconsideration of existing assessment protocols in the university. We agree

with Peter Jacobsen [1] that when home assignments can be entirely AI-generated, it doesn't make any sense for them to be part of in-course (aka "continuous") assessment. Instead, viva and in-class tests and exams should be used in the age of AI to measure students' understanding of course content.

Section 5 of our survey sought to identify the most common AI tools that UPNG students use. Table 5 below presents our findings and commentary.

Table 5. My AI tools	
<p><b>I use Chat GPT</b></p>  <p>■ NO ■ YES</p>	<p>ChatGPT is the most popular AI tool, used by about 66% of students worldwide [27; 28;29]. It first burst onto the UPNG scene just over two years ago and is now used by 80% of UPNG undergraduate students.</p>
<p><b>MS Copilot/Bing AI</b></p>  <p>■ NO ■ YES</p>	<p><b>MS Copilot</b> (aka Bing AI, used by about 25% of students globally) comes second at UPNG. Its use by 44% of UPNG students is, no doubt, due to its integration across most MS products like Edge, Windows, Office apps, and Bing search. It also integrates directly into tools like Word, Excel and PPT, thus becoming part of the MS365 platform /ecosystem.</p>
<p><b>Gemini</b> is Google's rival to MS Copilot and OpenAI's ChatGPT. Being the default AI assistant on Android phones, Gemini is a natural choice for UPNG students. Gemini is also directly integrated into Google Classroom, one of two LMSs (GC and Moodle) used at UPNG. This explains its high adoption rate among UPNG students – 42% of them reported using Gemini for brainstorming, summarizing readings, planning projects, or generating creative content.</p>	<p><b>Gemini</b></p>  <p>■ NO ■ YES</p>
<p><b>AI Chat</b></p>  <p>■ NO ■ YES</p>	<p><b>DeepAI's AI Chat</b> and <b>QuillBot AI Chat</b> are two examples of free AI bots assisting students in writing and studying. Because OpenAI's ChatGPT is also one of the AI Chat tools, the 28% response in this survey is too vague; it will need to be checked in future studies.</p>

<p><b>Grammarly</b> helps users write clearly and correctly; apart from correcting grammar, it can draft emails, brainstorm ideas, and rewrite texts. Only 26% of the students use it, as its premium version requires subscription, while built-in tools like MS Word’s spellchecker “can do the job for free.”</p>	<p><b>Grammarly</b></p> <ul style="list-style-type: none"> <li>NO: 701, 74%</li> <li>YES: 248, 26%</li> </ul>
<p><b>Bixby</b></p> <ul style="list-style-type: none"> <li>NO: 905, 95%</li> <li>YES: 44, 5%</li> </ul>	<p><b>Bixby</b> is Samsung’s voice assistant, built specifically for Samsung devices like Galaxy phones. This also explains Bixby’s limited use: not many students can afford a high-performance Galaxy phone with integrated AI capabilities.</p>
<p><b>Other AIs</b> is another interesting topic for further investigation, given that almost a third of the students reported using them. It will be interesting to find out if <b>Perplexity AI</b><sup>3</sup>, specifically designed to assist with cited research projects has found its way to UPNG.</p>	<p><b>Other AIs</b></p> <ul style="list-style-type: none"> <li>NO: 675, 71%</li> <li>YES: 274, 29%</li> </ul>

Key insights gained from these findings:

1. Despite all the constraining factors and barriers (such as prohibitively expensive data, unreliable Internet access, slow networks, low levels of digital literacy, *inter alia*) noted in the 2019 Report on the Baseline Study of Technology-Enabled Learning at the University of Papua New Guinea [30], ChatGPT is now used by 80% of UPNG UG students to brainstorm, summarize texts, and produce creative writing.
2. MS Copilot and Gemini also enjoy high (42-44%) adoption rates due to their accessibility as they are directly integrated into their respective platforms (MS /Google).
3. More focused research is needed to identify other AI tools UPNG students use, given their 29% adoption rate.

Section 6 poses two important questions:

1. Do you have mixed emotions (anxiety, guilt) about AI use?
2. Would you like clear guidelines from the University on AI use?

Table 6 provides the answers UPNG students gave:

<sup>3</sup> Perplexity is a research-focused chatbot that provides cited answers, making it valuable for academic work.

<b>Table 6. Need for CLEAR GUIDELINES</b>	
<p>In response to the first question regarding having mixed emotions about AI use, over three quarters (77%) of all students admitted feelings of guilt. Yet, almost a quarter (23%) of students have no negative feelings at all about it.</p>	<p><b>GUILT</b></p> <p>220, 23% NO 729, 77% YES</p>
<p>An almost unanimous positive response was received to the second question:</p> <p><b>96%</b> of the students want a clear policy to guide them in their use of AI tools.</p>	<p><b>GUIDELINES NEEDED</b></p> <p>34, 4% NO 915, 96% YES</p>

Section 9 on “Academic misconduct” of the revised (March 2024) UPNG Undergraduate Assessment and Accreditation Policy discusses plagiarism in all its forms, but makes only a short statement which defines “submitting academic work for assessment generated by generative AI tools as one’s own work” as plagiarism [UPNG UG AAP § 9.3.9 on p. 28]. This policy statement does not address the issue fully. Given that more than 56% of students are currently using AI, there will soon be no assignments submitted that are not AI generated. AI is unraveling the entire structure and process of existing instruction and assessment practices in higher education, as noted by Dr. Jacobsen [1]. UPNG needs a comprehensive AI policy framework to protect academic integrity, guide students responsibly, and ensure graduates are prepared for their AI-shaped and AI-powered professional future.

#### IV. CONCLUSIONS and RECOMMENDATIONS

##### Key insights about AI adoption at UPNG

- Rapid mainstreaming with uneven literacy:** Adoption is high (56% regular users), but formal exposure is low (10% workshops) and self-reported comfort coexists with gaps in understanding. This points to strong demand for structured AI and digital literacy and safe-use practices.
- Strong ethical awareness but practical/behavioral compromises:** Most students label AI-generated submissions as cheating (≈71%), yet one-third still use AI to generate assignments. This pragmatic tension signals that assessment design—not just policy—must adapt to reduce incentives for misuse.

3. **AI helps students in reading and comprehension:** Heavy reliance on summaries and concept explanations suggests AI is functioning as a scaffolding tool for content mastery. Without guardrails, however, this can flatten depth of learning and erode critical reading habits.
4. **Trust of AI among students is cautious and selective:** Students recognize AI's limits (accuracy concerns; low on full trust), which is a healthy foundation for teaching verification, citation, and triangulation skills.
5. **Device and Internet access constraints shape student behavior:** With lower-performance devices and cost/coverage constraints, students gravitate toward platform-integrated tools (Copilot for MS ecosystem; Gemini for Android/Google Classroom). Accessibility drives tool choice more than feature nuance.
6. **Demand for guidance:** Near-unanimous (96%) call for clear guidance indicates students want rules that legitimize responsible use, define boundaries, and reduce anxiety about misconduct.

### **Recommendations:**

**Assessment redesign is urgent:** More grading weight should be given to vivas, in-class writing, oral defenses, labs, and process portfolios (a requirement for draft histories and reflection memos can verify authentic learning).

**A practical AI use policy** should be formulated, with clear definitions of allowed vs. prohibited uses and mandated disclosure when AI is used (with examples provided by assignment type). AI policy should align with academic integrity procedures, specifying graduated penalties and amnesty windows.

**AI and digital literacy modules** should be launched to assist students in adjusting to new AI realities: These should feature short, stackable micro-courses on prompting, verification, fact-checking, bias awareness, citation of AI-assistance, data privacy, and discipline-specific applications.

**Equitable access should be supported** by optimizing for low-bandwidth and mobile-first AI workflows and offering device and data support where possible.

**Faculty development:** Hands-on AI literacy workshops should be organized to bring academics up "to AI speed" and assist them in redesigning tasks for higher-order thinking (synthesis, critique, transfer).

**An AI Teaching & Learning Taskforce** should be established to monitor developments by running annual pulse surveys and to track usage, academic integrity incidents, and student learning outcomes, for timely adjustment between policy and practice.

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**N.B.**

Appendix I features the Survey Instrument used in the UPNG Waigani Campus; Appendix II - a very similar Questionnaire that was used in the Taurama Campus.

Both appendices are available for download online.