

Tutorbot pilot study: learning support, feedback and assessment in a crisis intervention module

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Abstract

Artificial Intelligence has recently emerged as a major contender in higher education practice. There are limited studies on the value in a crisis intervention module psychology training in multilingual South Africa. This pilot study investigated how postgraduate students used the tutorbot at a single South African higher education institution. An exploratory learning analytics approach, supported by qualitative content analysis, was used to examine 1,546 anonymised chat messages with three error rows excluded. The cleaned data set consisted of 571 student messages and 975 tutorbot responses in 405 chat-threads from 46 unique student interactions. The analysis focused mainly on how students used the tutorbot, what pedagogical functions the tutorbot performed, and what tensions arose in the learning interaction. The findings indicated that the tutorbot was mainly used for module content-related learning, concept clarification, assessment preparation, and multilingual support. The tutorbot functioned as a formative scaffolding by explaining concepts, asking Socratic questions, giving feedback, and encouraging students to revise their thinking. However, the intentional Socratic style of the tutorbot sometimes frustrated students who required a direct explanation rather than further questioning. Multilingual exchanges suggested potential for expanding epistemological access in South African psychology education. The article argues that tutorbots can support postgraduate psychology teaching when they are used as bounded formative tools within a supervised academic environment. The findings support the use of AI for structured rehearsal, feedback and conceptual consolidation, but not as a replacement for lecturers, clinical supervision, or professional judgement.

Introduction

Crisis intervention cannot be taught through content transmission alone. Students need to understand the relevant theories and also learn how to respond when human distress is immediate, volatile, and complex (Richard et al., 2023). A student may be able to correctly define crisis, disequilibrium, trans-crisis states, trauma reactions, suicide risk, or psychological first aid, yet still struggle to apply these concepts in scenarios where safety, containment, referral, culture, and professional boundaries must be considered at the same time. In this respect, crisis intervention teaching does not rely on memory alone, it also asks for professional judgement.

The movement from theoretical knowledge to applied and informed judgement is a well-known difficulty in professional training of psychology and these teaching practices remain essential. However, they are also time intensive and anxiety provoking for new psychology students. In postgraduate programmes with dense curricula and high-stakes professional outcomes, students possibly need more opportunities for immediate formative feedback than lecturers can reasonably provide during formal class time (Banihashem et al., 2024; Hattie & Timperley, 2007; Nickerson et al., 2019).

The development of generative artificial intelligence (AI) has created new possibilities in this space. AI-supported tutorbots can provide explanations, generate examples, ask follow-up questions, and respond to student drafts. They can also support repeated rehearsal opportunities outside the classroom as well as after-hours. In higher education, recent work has shown that generative AI is used for feedback,

tutoring, writing support, explanation, and assessment preparation (Albadarin et al., 2024; Mai et al., 2024; Xia et al., 2024). Most of these applications only prove its educational value when the technology is aligned with the clearly articulated learning outcomes of the module, traditional assessment standards, appropriate ethical constraints, and the specific epistemic and cognitive demands of the discipline. The tutorbot can then be presented as a bounded educational scaffold, rather than a therapist, autonomous assessor or even a substitute for the lecturer (Albadarin et al., 2024).

This point is especially important in psychology. The content of psychology instruction often includes trauma, suicide, violence, grief, ethical conduct, and human vulnerability. AI in this setting cannot be treated as a neutral study aid. It may support learning, but it may also produce inaccurate information, offer generic advice, flatten cultural nuance, or encourage dependence on unverified answers. Ethical concerns regarding AI systems in mental health contexts include safety, transparency, privacy, bias, accountability, and the risk that users may mistake simulated support for clinically accountable care (Blease & Rodman, 2025; Coghlan et al., 2023; Meadi et al., 2025). Although the present study concerns a tutorbot used for education rather than therapy, the risks remain relevant because students were engaging with crisis-related content.

A chatbot is a conversational computer aid that can interact with users through natural language, whereas general purpose chatbots, such as ChatGPT are trained for broader conversation and content generation that is not necessarily curriculum aligned (Labadze et al., 2023; Okonkwo & Ade-Ibijola, 2021). The educational chatbot is used within a specific learning environment to answer questions, provide course information and explain concepts in a more pedagogical structured form that is aligned with specific learning outcomes. The tutorbot can also provide formative feedback and support self-regulated learning (Faza & Lestari, 2025; Hemmler & Ifenthaler, 2024).

Against this background, the present article examines how an AI-supported tutorbot and its questioning style, used in a postgraduate crisis intervention module in psychology, responds to or conflicts with students' immediate learning needs.

The study aimed to examine how postgraduate psychology students used an AI tutorbot during crisis intervention learning, the pedagogical functions evident in the interaction, and the tensions associated with Socratic, assessment-related and multilingual use.

The present study did not investigate whether the tutorbot improved student marks or clinical competence. The available dataset does not permit such a conclusion. Instead, the study examined the interaction between the students and the tutorbot itself.

The study was guided by three research questions: (1) How was the tutorbot used by postgraduate psychology students in a crisis intervention module? (2) What pedagogical functions did the tutorbot implement during student learning? and lastly, (3) Did any tensions emerge in the interaction between students and the AI tutorbot?

Conceptual orientation

Three related educational ideas informed the study, namely formative feedback, case-based applied rehearsal, and self-regulated learning. These concepts were used because they did not treat the tutorbot as a technological novelty within the teaching process.

Formative feedback helps students understand the gap between their present performance and the expected standard. In professional education, this feedback must do more than indicate whether an answer is correct. It must show students how to improve their reasoning. Hattie and Timperley (2007) and Ryder (2024) argued that effective feedback addresses where the learner is going, how the learner is progressing, and what should happen next. In crisis intervention education, this means helping students identify whether they have considered immediate safety, emotional containment, ethical conduct, referral, and contextual factors. Tutorbots should operate to adapt the feedback to the student's current need. If a student has adequate knowledge on a subject, they might benefit from Socratic questioning, where as the student who is confused, initially needs a direct explanation (Hemmler & Ifenthaler, 2024).

Case-based rehearsal is equally important. Crisis intervention is applied work. Students need to practise making links between theory and situation (Belkina et al., 2025). A well-written case requires them to think about risk, vulnerability, support structures, resources, culture, developmental stage, and appropriate intervention. AI tutorbots may provide useful rehearsal because they can respond immediately and repeatedly. However, rehearsal without human oversight may also become superficial if students use AI to produce answers rather than refine their own thinking.

Self-regulated learning provides a third lens. Students using an AI tutorbot must decide what to ask, judge whether the answer is useful, compare the response with prescribed course material, and revise their work accordingly. This requires metacognitive awareness. Listiana et al. (2025), claim that learning attitude and learning independence contributes to metacognitive awareness. Akram et al. (2025), found that students who used AI-assisted learning showed improved ability to efficiently solve issues, organize their thoughts, and self-regulate their learning processes.

Together, these concepts frame the tutorbot as a possible formative scaffold. A scaffold supports learning while the learner is still developing competence (Kruiper et al., 2022). The tutorbot is not intended to replace the teacher or the professional standard. Its role is to help the student move from partial understanding toward more independent judgement.

Method

Research design

An exploratory learning analytics design was used, supported by qualitative content analysis to describe patterns of engagement in the tutorbot dataset. Qualitative content analysis was applied to identify the main ways in which students used the tutorbot and to determine the pedagogical functions that emerged in the interaction. This design was deemed appropriate because the data consisted of naturally occurring digital learning traces rather than interview accounts or survey responses.

The platform

The study analysed anonymised student–tutorbot interaction data generated through an educational tutorbot hosted on an independent platform.

The module

The module was a crisis intervention module in a postgraduate class in the programme of psychology at a single tertiary institution in South Africa. The students were required to demonstrate advanced knowledge and understanding of the theoretical and practical application of brief-term intervention skills, critically engage with theories and effectively select and apply certain procedures and techniques, conduct case studies and the ability to independently analyse and synthesize information using appropriate academic discourse to present findings and demonstrate a clear value system and code of ethical conduct in all forms of communication and interaction.

Dataset

A total of 60 students were enrolled in the class and 46 students (77%) signed written informed consent for data to be used in the study and subsequent publication. The dataset consisted of 1,546 successful chat messages exported from the tutorbot platform. For the purposes of this study, A message was defined as a single recorded conversational turn submitted by either a student or the tutorbot. Each student submission and each tutorbot response were counted separately, irrespective of length, number of sentences, or line breaks. A chat thread comprised a sequence of messages grouped under the same conversation identifier. Of these, 571 were student messages and 975 were responses by the tutorbot, while three IDs contained only opening or inactive traces and were excluded from the data set. Inactive traces refer to the tutorbot's first welcome message and no interaction from the student. The interaction took place between 22 July 2025 and 28 October 2025.

Data analysis

The analysis proceeded in three stages. First, the dataset was cleaned in OpenRefine, and non-essential columns were removed. Python was then used for exploratory data analysis (EDA), with *pandas* and *seaborn* used to sort and profile messages by user (student or tutorbot), date, thread, and message length, and to translate Setswana and isiXhosa interactions. Messages were classified as English when their structure and vocabulary were predominantly English; as Setswana when they contained linguistic markers such as “gake”, “gore”, and “ke eng”; and as isiXhosa when they contained markers such as “kutheni” and “umbuzo wam”. Claude assisted with data coding and verification. Second, keyword-assisted coding identified broad patterns in student messages, including crisis and trauma content, concept clarification, assessment rehearsal or preparation, case-based application, ethical and safety-related content, multilingual interaction, and expressions of friction or frustration. These categories were not mutually exclusive; a single message could serve more than one function, such as requesting an exam answer based on a trauma case.

Table 1
Initial student code book, inclusion and exclusion criteria

Code	Category	Definition and inclusion criteria	Exclusion criteria	Example*
C1	Crisis and trauma-related content	Messages addressing crisis, trauma, associated reactions or intervention principles. Includes suicide, violence, bereavement and other module-related crisis topics.	Terms appearing incidentally without substantive relevance to the message.	"What are the key principles of crisis intervention?"
C2	Concept clarification	Requests for definitions, explanations, distinctions, stages or examples intended to clarify a concept.	Requests solely for marking, proofreading or completed assessment answers.	"What is the difference between crisis and trauma?"
C3	Assessment preparation and answer development	Requests concerning examination questions, assignments, model answers, draft improvement, marking or evaluation.	General content questions without an explicit assessment context.	"What is missing from my answer to this 25-mark question?"
C4	Case-based application	Messages requiring application of theory or intervention principles to a particular scenario.	Abstract explanations without a specific case or situation.	"How would this intervention model apply to families affected by the Bree Street explosion?"
C5	Explicit frustration or resistance to questioning	Direct expressions of confusion, frustration or requests for answers without further questioning.	Brief messages or requests for explanation that do not explicitly indicate frustration or resistance.	"I do not understand; that is why I am asking."
C6	Ethics and safety-related content	Messages addressing risk, safety, consent, confidentiality, autonomy, non-maleficence, professional boundaries or referral.	Crisis-related messages that do not explicitly address an ethical or safety issue.	"What are the limits of confidentiality in this case?"
C7	Multilingual or language-related content	Requests for translation, explanations in another language, discussion of language, or substantive use of Setswana or isiXhosa.	Spelling errors or informal English alone.	"Explain crisis in isiXhosa."

The code book rules were developed alongside the codes. One student message was defined as a single conversational turn. A message could contain multiple codings, such as a request to explain confidentiality for an examination case should receive all the codes, such as C2, C3, C4 and C6.

Ambiguous codes were analysed for context when a brief messages depended on the conversation. Keywords were used to locate student messages and categories confirmed through contextual reading. In this instance, the word “trauma” did not in itself establish the student’s intended use. Unclear messages must be marked for review, rather than a forced classification. The final decision and rationale must be recorded. Changes to definitions must be documented and revised rules must be applied consistently to previously coded messages if necessary.

The second researcher reviewed the messages assigned to each category against the codebook by examining uncoded messages for missed instances and checking ambiguous cases within their threads. The false positives, missed codes and changes to category definitions were recorded as well as recalculating counts and percentages from the final coding file.

Third, selected interaction threads were read qualitatively. This close reading focused on how students positioned the tutorbot, how the tutorbot responded pedagogically, and where the interaction either supported or obstructed learning. Ambiguous and uncoded cases were highlighted and later read within the full conversation for context. Extracts are used sparingly and are anonymised. Spelling and grammar in student extracts have been retained where relevant, as these features form part of the natural learning exchange.

Ethical considerations

Research data were collected only with explicit student consent and processed within a dedicated “Research Classroom” on the platform. Data privacy and research requirements were managed externally under strict controls: data had to be formally requested, and downloads were limited to records from students who had consented to participate in the designated Research Classroom (Morgan, 2026). Neither specific interactions nor personal data were used to train external AI models. The platform’s privacy-first policy aligns with international and local regulations, including the GDPR, POPIA, COPPA, and FERPA, and all data are destroyed when an account is terminated.

Formal ethical clearance was obtained through the institutions research ethics committee. The dataset was anonymised before analysis. Student names were not included in the dataset, and student identities were represented through encoded IDs. Students provided written informed consent for the use of anonymised learning data for research and publication purposes. Students were allowed to withdraw from the study with no ramifications and still allowed to use the tutorbot. Students who did not want to participate in the study were still allowed to use the tutorbot and their data were not collected and does not form part of the final dataset.

Findings

A total of 46 (76.67%) students consented that their messages may be used in the study, where 31 (67.39%) students asked more than ten questions at a time as per Table 2 below. The students were most active in September in preparation for the exams starting in October.

The cleaned dataset contained 34 student messages in July, 79 in August, 404 in September, and 54 in October ad depicted in Table 3 below. This pattern is evident that students increasingly used the tutorbot for examination preparations, as study demands intensified. Although the current dataset does not allow a direct link between activity and assessment deadlines to be confirmed, activity on the platform increased over the semester.

Most student messages were generally short. The median student message contained 12 words, and the tutorbot’s responses were longer, with a median length of 42 words. This difference reflects the typical structure of the interaction: students often asked brief questions, while the tutorbot provided explanation, feedback, or follow-up prompts (Thesen & Park, 2025). Some student messages were much longer and included pasted assignment instructions, case material, draft paragraphs, or exam-style answers.

Table 2
Descriptive profile of the tutorbot dataset

Indicator	Value
Total rows in dataset	1,549
Successful interactions	1546
Error rows excluded	3
Unique student ID's	46
Active students asking more than ten questions	31
Total chat threads	405
Date range	22 July 2025–28 October 2025
Student messages/questions	571
Tutorbot responses	975
Highest activity month	September 2025

The most frequently used language was English (99.81), the remaining 0.19% consisted of non-English messages in Setswana and isiXhosa.

Table 3
Descriptive profile of messages

Role	Count	Mean words	Median words	SD Words
Student messages	571	69.13	12.00	340.04
Tutorbot Messages	975	51.08	42.00	36.39
All messages	1 546	57.75	29.50	208.73

The findings are presented in seven integrated sections as depicted in Fig. 1. These sections move from broad patterns of use to more specific pedagogical tensions. This structure reflects the way the tutorbot was used: first as a content resource, then as a feedback tool, then as a rehearsal space, and finally as a site where the limits of AI-supported learning became visible. This study supported the use in multiple languages to clarify difficult concepts by providing explanations of theories, concepts and terminology, often in a student's home language. Students also engaged in understanding test material, support for written answers, and provision for immediate feedback.

Crisis and trauma-related learning formed the center of student use

Students used the tutorbot mainly for content directly related to crisis and trauma. Keyword-assisted coding identified 263 student messages, representing 46.1% of all student turns, that included crisis or trauma-related terms. These messages included questions about crisis intervention, trans-crisis states, PTSD, suicide, rape, domestic violence, grief, burnout, abuse, trauma responses, and intervention strategies.

Many questions were direct and content focused. Students asked, for example, *"What are the key principles of crisis intervention?"*, *"Explain and demonstrate the intervention strategies to be utilized with bereavement,"* and *"Explain the importance of ethical behaviour in crisis intervention."* These prompts show that students used the tutorbot as a study companion for core module concepts. This is a basic function, but it is not insignificant. Immediate access to explanation may help students resolve confusion before misconceptions become embedded.

Other prompts required more applied reasoning. Students asked the tutorbot to compare long-term therapy with crisis intervention, to explain the crisis worker's role in acute trauma, and to apply intervention strategies to cases of domestic violence, sexual assault, bereavement, and community disaster. In these exchanges, the tutorbot moved beyond definition and became part of a case-based learning process.

This pattern suggests that the tutorbot was used in ways that corresponded with the applied nature of the module. Students did not only ask what a concept meant. They also asked how a concept could be used. This distinction is important in postgraduate psychology education, where applied competence is central to professional development.

Notes: A: Categories were not mutually exclusive. Percentages use 571 student messages as denominator and therefore do not add up to 100%

B: Pedagogical functions is summarised, it does not represent a measured sequence of learning.

Figure created using ChatGPT with researcher generated data

Themes

Concept clarification remained a central learning need

Concept clarification appeared in 278 student messages, representing 48.7% of student turns. Students asked for definitions, distinctions, explanations, examples, and stages. They asked about crisis intervention, trans-crisis points, PTSD, parasuicide, survivor guilt, burnout, social norms theory, and the difference between intervention models.

It is expected to find this pattern in a module where many concepts are related but not identical. Non-English-speaking students may easily confuse crisis with trauma, acute intervention with long-term therapy, or emotional support with professional containment. The tutorbot was therefore used to stabilise conceptual understanding.

In one of the exchanges a student challenged the tutorbot by pasting a textbook extract and stating: *"but this is what the textbook says and it does not agree with your answer."* This showed that students were not passively accepting AI responses. The student compared the tutorbot's explanation with prescribed material and identified a mismatch. Such critical checking is a valuable AI literacy behaviour. It also points to a design concern. If the tutorbot is used in a formal module, it must align closely with the prescribed sources and lecturer expectations.

Concept clarification, then, had two dimensions. It helped students understand difficult material, but it also exposed the need for strong content governance. A tutorbot in psychology education should not operate as a general information system when the course has specific prescribed frameworks. It should be anchored in lecturer-approved material. Upon a question, The tutorbot responded with *"...let's map out a sample exam with five questions per unit from Study Units 4–12..."*, indicating that lecturer approved information was preloaded.

The tutorbot was used for assessment rehearsal and answer development

Assessment-related use appeared in 243 student messages, or 42.6% of student turns. Students asked for application questions, model answers, essay assistance, feedback on draft responses, and ratings of answers. Some asked whether their answer was adequate. Others asked the tutorbot to mark or improve exam-style responses.

This finding shows that the tutorbot became part of students' assessment preparation. It was not used only for casual clarification. Students used it to rehearse academic performance. They asked how to structure introductions, how to conclude assignments, how to answer a 25-mark question, and how to apply theory to a case. The tutorbot encouraged engagement with the content: *"Great start on question 1! Can you give an example of a situation where you would have to apply the duty to warn?"*

One student pasted a long assignment brief and case material related to the Bree Street explosion in Johannesburg. Another submitted a draft conclusion linking crisis intervention models to named case examples. These prompts required the tutorbot to respond at the level of academic writing, theory application, and assessment alignment.

The tutorbot often responded by giving formative feedback rather than simply providing completed answers. It identified strengths, noted missing elements, and encouraged further development. For example, in response to a student answer on non-maleficence in sexual assault work, the tutorbot affirmed the principle of doing no harm and encouraged attention to the survivor's readiness, autonomy, and emotional safety. The tutorbot responded with *"Excellent example! Respecting non-maleficence helps protect clients from further trauma during intervention."* This kind of response is pedagogically useful because it invites the student to refine professional reasoning.

At the same time, assessment rehearsal raises an academic integrity issue. There is a fine distinction between using a tutorbot to improve one's thinking and using it to generate work. This distinction must be made explicit in teaching policy. Students need clear guidance on acceptable AI-supported learning. A tutorbot can be valuable when it helps students revise their own responses. It becomes problematic when it produces polished assessment-ready text without requiring student authorship (McNichols et al., 2026; Nimri & Yang, 2024). A student requested assistance with an assignment: *"I have an assignment. This is the instructions and the case study:..."* with a follow-up question on the final assignment: *"Where can I improve to accurately apply the information to the assignment?"*

Case-based application strengthened the link between theory and practice

Case-based application appeared in 109 student messages, representing 19.1% of student turns. Students asked the tutorbot to apply intervention principles to public disasters, family grief, pet bereavement, domestic violence, adolescent crisis, and sexual assault. These prompts are pedagogically meaningful because case application is where professional psychology learning becomes visible.

The Bree Street explosion case was prominent in the data. One student used the tutorbot to consider how crisis intervention models could be applied to victims, families, bystanders, and affected communities, seeking answers to assist with the practical case example. The "Bree street" case was significant because it is locally situated. It required students to think beyond the individual client and consider collective trauma, urban disruption, acute fear, and the social context of crisis.

Another student used their own example and asked about the death of a pet in a family with a six-year-old child. Although this may appear less severe than a disaster or violent trauma, the prompt required developmental sensitivity. It asked the student to think about how children understand death, how families support mourning, and how crisis workers respond to grief in a way that is neither dismissive nor over-pathologising.

Students also asked about domestic violence and rape. These prompts required attention to myths, stigma, cultural beliefs, safety planning, emotional containment, and the reasons survivors may remain in abusive relationships. The tutorbot's responses often encouraged students to consider support systems, non-judgmental listening, and the survivor's autonomy.

This case-based pattern is encouraging. It suggests that students were using the tutorbot to practise the applied reasoning expected in crisis intervention. However, it also reinforces the need for careful

safeguards (Bastani et al., 2025). Case-based prompts in crisis education can easily move close to real-world advice. The tutorbot should therefore make clear that its responses are for educational purposes and that real cases require supervision, local protocols, and appropriate referral.

The tutorbot's Socratic style supported learning but sometimes created frustration

A striking feature of the tutorbot was its strong questioning style. Of the 975 tutorbot responses, 947 (97.1%) contained a question mark. This indicates a deliberate dialogic or Socratic design. The tutorbot frequently explained a concept and then asked the student to apply it, reflect on it, or answer a follow-up question. Upon a question regarding the tutorbot responded: *"Before we dive into the key principles, can you tell me what you already know about crisis intervention or share any principles you remember?"*

This design has educational value. It discourages passive answer-seeking and prompts students to think (Lee et al., 2026). In professional education, this is important. Students must develop judgement, not merely reproduce definitions. A tutorbot that asks, *"How would you apply this to a survivor who feels unsafe?"* is more educational than one that simply lists principles.

However, the dataset also showed that the questioning style was sometimes too strong. Thirteen student messages directly expressed frustration, confusion, or requests for answers without further questions. These questions were treated as ambiguous questions. The full message was read for context before coding. One student wrote: *"I dont understand thats why i am asking."* Another wrote: *"please answer my question."* A later student stated: *"stages of burnout, no questions just answers,"* and then, *"i said no questions."*

One isiXhosa message captured the same frustration more vividly: *"Kutheni ungawuphenduli umbuzo wam, into oyenzayo kundingxala ngeyakho imibuzo."* This may be translated as: *"Why are you not answering my question; what you are doing is overwhelming me with your own questions."*

These moments do not invalidate the Socratic approach. Rather, they show that questioning must be responsive to the learner's state. When a student already understands the basics, questions may deepen learning. When a student is confused, too many questions may increase frustration. A tutorbot should therefore be able to shift between modes: direct explanation, guided practise, feedback, testing, and Socratic reflection.

This is a useful design lesson. Human lecturers often adjust their teaching in response to student cues. AI tutorbots must be designed to approximate this responsiveness. A rigid questioning style may appear pedagogically sound in theory but feel obstructive in practice.

It may also be that students appeared to use the tutorbot to bypass cognitive effort required for learning and therefore raises the question of academic integrity and professional development. A student might appear competent with a polished answer from AI without having developed ethical reasoning, conceptual understanding or applied judgement required for crisis work. Current research shows that when AI-

generated examination answers are not detected, it can produce higher grades and that Ai-assisted task performance does not translate into independent learning (Bastani et al., 2025).

The dataset suggests that the tutorbot can support teaching when it is positioned as a formative learning companion rather than an answer-generator. Its value lies in helping students practise thinking, not in replacing that thinking.

Ethical and safety-related learning was present but should be made more explicit

Ethics and safety appeared in 38 student messages, representing 6.7% of student turns. Students asked about safety, autonomy, non-maleficence, confidentiality, consent, risk, and referral. Although this is a smaller proportion of the dataset, the content is central to crisis intervention.

The tutorbot generally responded by reinforcing safety, respect, non-judgmental support, and referral. It encouraged students to consider the client's immediate physical and psychological safety. It also referred to autonomy, emotional containment, and the need to avoid pressuring survivors to disclose more than they are ready to share.

These responses are aligned with the professional values of crisis intervention. Yet the low frequency of explicit ethics-related student prompts suggests that ethics may need to be more deliberately built into the tutorbot's design. In crisis education, ethics should not depend only on whether a student asks an ethical question. Every crisis scenario should activate ethical thinking, make the tutorbot's limitations explicit and incorporate ethical dilemmas and reflective exercises (Abuadas et al., 2025; Nguyen et al., 2023; Perkins et al., 2024).

A crisis tutorbot could therefore include routine prompts such as: What is the immediate risk? Who may be unsafe? What are the limits of confidentiality? What consent issues apply? What cultural or family factors are relevant? What referral pathway is appropriate? What would require urgent escalation? Such prompts would help students integrate ethics into every applied answer.

Multilingual interaction showed both promise and limitation

The dataset included a small but important number of multilingual exchanges. Seventeen student messages and 48 tutorbot messages included multilingual or language-related content. Students asked whether the tutorbot knew isiXhosa and requested an explanation of crisis in isiXhosa. The tutorbot responded in isiXhosa and attempted to explain crisis, intervention, safety, autonomy, and support.

This is important in South African psychology education. Students often study in English while living and practicing in multilingual contexts. A tutorbot that can move between English, and an African language may improve access to difficult concepts. It may also help students imagine how psychological language can be communicated in community or client-facing settings. One student wrote: *"explain crisis in Xhosa"*.

Mageira et al. (2022) found that educational chatbots may support learning content through interaction across languages, however, the multilingual exchange also revealed a limitation. At one point, the student

corrected The tutorbot's interpretation by writing: "*Hayi ... ndithetha ngabakhwetha mna*," meaning, "*No, ..., I am speaking about initiates*." The correction suggests that the tutorbot misunderstood the cultural referent. This is not a minor issue. In psychology, language is tied to culture, identity, ritual, family, and social meaning. A tutorbot may produce fluent language while missing the lived significance of a concept. This is a valuable future study.

This finding is especially relevant in the South African context. Cultural competence cannot be reduced to translation. A tutorbot may know words without understanding the social world in which those words are used. For psychology education, multilingual AI must therefore be developed with human review, local examples, and mechanisms for students to flag cultural misinterpretations.

Discussion

These findings suggest that the tutorbot served as a flexible but imperfect learning support in a postgraduate psychology module. Most students used it to clarify concepts, rehearse assessment answers, apply theory to cases, and receive formative feedback, supporting recent arguments that generative AI can be used to support explanation, feedback, simulation, and self-regulated learning in higher education (Albadarin et al., 2024; Kasneci et al., 2023; Mai et al., 2024).

The first important finding is that students used the tutorbot for meaningful module-related learning. The strongest pattern concerned crisis and trauma concepts and content. In this instance, it indicates that the tutorbot was not merely a general writing assistant (Lang, 2024). This matters because AI tools in education are sometimes discussed as though they are external to the curriculum. In this case, the tutorbot became part of the curriculum environment. Students used it while wrestling with crisis theory, intervention strategies, and case application.

The second finding is that the tutorbot supported formative feedback. Students submitted draft answers, asked for marking, and requested improvement (Hattie & Timperley, 2007; Ryder, 2024). This is one of the most promising uses of AI in postgraduate teaching. Students often need more formative feedback than a lecturer can provide individually. A tutorbot can respond immediately and repeatedly. It can help students revise before formal submission. It can also reduce the shame that some students feel when asking basic questions in class. The tutorbot is also available at all hours, when the lecturer is not.

However, the quality of such feedback must be carefully governed. In psychology education, feedback should not only improve grammar or structure. It should strengthen clinical reasoning, ethical thinking, contextual sensitivity, and professional language. The tutorbot did some of this, especially when it prompted students to consider safety, autonomy and non-maleficence. Future versions could be improved by linking feedback more explicitly to assessment criteria and professional competencies.

The third finding concerns the tension between explanation and questioning. The tutorbot was designed to ask many questions. This was pedagogically defensible, but not always well received. The chat logs show that some students experienced the questions as obstructive when they needed direct explanation. This has implications for tutorbot design. A useful tutorbot should not use one teaching style for every student

prompt. It should adapt. At times, students need a clear answer. At other times, they need a challenge. At still other times, they need feedback on their own attempt. In this study, several students used the tutorbot actively and critically. Some asked for explanations. Others submitted draft answers and requested feedback. One student challenged the tutorbot when its explanation did not match the textbook. Such moments are important because they show that AI-supported learning can include critical evaluation, not only passive consumption.

Several student responses suggested that some users attempted to use The tutorbot instrumentally, as a shortcut to completed answers. These responses are analytically important because they reveal a tension between learning support and unethical AI use. On one level, some students may genuinely have required clearer explanations before being able to answer follow-up questions. On another level, the insistence on “no questions just answers” suggests a more problematic use of AI: the attempt to bypass cognitive effort and obtain pre-packaged responses. In this sense, The tutorbot’s refusal to function merely as an answer generator was not a weakness in the design. It was an ethical and pedagogical strength.

From an academic integrity perspective, this is significant. Generative AI can easily be misused to produce assignments, model answers, or examination-style responses without sufficient student authorship. In applied psychology, this is not only a matter of plagiarism or poor scholarship. It may also create a false impression of competence. A student who can obtain a polished AI-generated answer may appear to understand crisis intervention without having developed the reflective and ethical reasoning required for practise. Socratic scaffolding helps to reduce this risk by making the student’s own thinking visible.

The fourth finding is that students used the tutorbot in assessment-related ways. This is likely to become common in higher education. The question is not whether students will use AI for assessment preparation, but how institutions will guide such use (Francis et al., 2024; Perkins et al., 2024). A prohibition model may be unrealistic. A permissive model without boundaries may be irresponsible. The more useful position is to define acceptable AI-supported formative learning. For example, students may be allowed to ask for feedback on structure, identify missing theory, or practise application questions, but not to submit AI-generated answers as their own work.

The fifth finding relates to multilingual and culturally responsive teaching. The tutorbot’s language flexibility suggests considerable promise. In South Africa, where students often navigate English academic discourse alongside African languages and Afrikaans, AI could support epistemic access. It could help students understand difficult concepts in a language closer to their lived world (Burner et al., 2026). However, the isiXhosa correction in the dataset shows the danger of assuming that translation equals understanding. Cultural competence is not a technical setting. It is an interpretive practice.

These findings support a cautious but constructive view of tutorbots in psychology education. The tutorbot should not replace lecturers, supervisors, peers, or simulated clients. It should also not be used for unsupervised clinical advice. Its value lies in a narrower but meaningful role: it can support formative rehearsal. It can help students practise language, concepts, and applied reasoning before they enter high-

stakes assessment or professional practice. Used well, it may assist students to become more confident, more reflective, and more prepared.

Implications for Psychology Learning and Teaching

This study offers several practical implications for psychology educators.

First, tutorbots should be designed around module outcomes. If a Crisis Intervention module requires students to apply specific models, the tutorbot must be trained or configured around those models. Generic AI responses may be useful for broad explanation, but they may misalign with prescribed teaching material.

Second, tutorbots should include selectable learning modes. Students should be able to choose whether they want explanation, testing, feedback, application, or Socratic questioning. This would reduce frustration and improve fit between student need and tutorbot response.

Third, tutorbots used in crisis-related modules should include ethical prompts by default. Safety, risk, consent, confidentiality, autonomy, referral, cultural context, and supervision should be built into applied responses. Students should not have to ask for ethics before ethics appears.

The friction in the dataset therefore should not be interpreted simply as evidence that The tutorbot was unhelpful or overly evasive. Rather, it shows that the tutorbot interrupted answer-seeking behaviour and redirected students towards explanation, application, and reflection. This is consistent with the educational purpose of a tutorbot in postgraduate psychology. Students are not being trained to repeat crisis intervention terminology; they are being trained to think in situations where distress, risk, safety, culture, and ethical responsibility intersect.

Fourth, AI-supported assessment preparation should be addressed openly. Lecturers should explain what counts as acceptable use and what counts as academic misconduct. This guidance should be written into module documentation.

Fifth, multilingual tutorbot functions should be reviewed by people with language and cultural expertise. South African psychology education requires more than English translation. It requires cultural meaning, local examples, and awareness of how distress is described in different communities.

Sixth, teaching ethical AI use in teaching and learning requires more than warning students against plagiarism. It involves developing AI literacy as an academic and professional competence. Students should be taught how to use AI for clarification, feedback, rehearsal, and reflection, while still retaining responsibility for their own reasoning, authorship, and judgement. In professional psychology education, this distinction is particularly important, as AI-generated answers may create the appearance of competence without the student having developed the ethical, clinical, and contextual understanding required for practise. Ethical AI use should therefore be taught explicitly through clear guidelines, transparent acknowledgement practices, assessment policies, and scaffolded activities that require students to evaluate, question, and improve AI responses rather than reproduce them uncritically.

Finally, tutorbot-use should be evaluated with multiple forms of evidence. Chat logs are valuable, but they should be supplemented by student reflections, lecturer observations, assessment outcomes, and competence-based measures. This would allow future research to examine whether AI-supported practise improves learning, not only whether students use it.

Limitations

It is important to note that the perceived usefulness of the tutorbot, does not constitute learning and the engagement with the tutorbot does not demonstrate that the students understood the concepts. Furthermore, the self-reported confidence does not establish clinical competence and to note that the improved written answers do not necessarily indicate the development of independent thinking.

The study has several limitations. First, the dataset consisted only of chat logs. It did not include student interviews, marks, lecturer observations, or pre- and post-test measures. The study can therefore describe patterns of interaction but cannot claim that the tutorbot improved competence.

Second, the categories used in the analysis were descriptive and overlapping. A message could be both assessment-related and case-based. The percentages should therefore be read as indicators of use rather than fixed measurements.

Third, the anonymised dataset did not include demographic information. It was not possible to examine how students' language background, prior academic performance, age, digital confidence, or clinical experience shaped their use of the tutorbot.

Fourth, the study did not include the tutorbot system prompt or full design documentation. It is therefore not possible to determine precisely how the tutorbot was configured to respond.

Fifth, the multilingual analysis was based on a small number of exchanges. These exchanges are important, but they cannot support broad claims about AI language use in South African psychology education. They do, however, indicate an area that warrants further study.

Finally, the tutorbot messages were not coded for pedagogical function, accuracy and responsiveness. This limits conclusions about the quality of the support provided and its alignment with students' learning needs. A subsequent study could examine these responses and their relationship to student contributions across successive conversational turns.

Conclusion

The tutorbot was used as a learning companion in a postgraduate crisis intervention module. Students engaged with it to clarify concepts, prepare for assessment, apply theory to cases, and receive feedback on their answers. The tutorbot supported learning by explaining content, asking questions, and encouraging students to think further. Yet the same questioning style sometimes frustrated students who needed direct explanation. This tension is instructive. It shows that AI tutorbots must be pedagogically responsive, not merely interactive.

The findings suggest that tutorbots may have a useful place in postgraduate psychology education when they are carefully bounded and supervised. They can provide immediate formative support, especially in modules where students must apply theory to complex scenarios. They may also help students practise professional language and receive feedback before formal assessment. However, their use in crisis intervention education requires strong ethical safeguards. Safety, autonomy, consent, confidentiality, referral, cultural context, and supervision must remain central.

The tutorbot should therefore be understood neither as a threat to psychology teaching nor as a simple solution to teaching demands. It is better viewed as a formative scaffold. It can assist students while they are still learning how to think, write, and reason in the discipline. Its value depends on how carefully it is designed, how clearly, it is governed, and how well it remains connected to human teaching. In crisis intervention education, this balance is essential. Students need support, but they also need standards. They need access, but they also need judgement. A tutorbot can help with the first step. It cannot replace the second.

Declarations

Declaration of conflicting interests

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Ethical approval and informed consent

Ethical approval was obtained from the institution's research ethics committee. Students were informed that anonymised learning interaction data could be used for research and publication purposes, and consent was obtained before analysis.

Data availability statement

The dataset contains anonymised student-tutorbot learning interactions. Due to ethical restrictions and the educational nature of the data, the full dataset is not publicly available. De-identified excerpts may be made available on reasonable request, subject to institutional approval.

Generative AI disclosure

ChatGPT (6) and Microsoft 365 CoPilot in Word (Microsoft) were used to improve language, clarity and readability of the document, audit in-text and reference list citations and generate Fig. 1 with data supplied by the lead author. AI was used to translate the deidentified Setswana and isiXhosa engagements to

English. Elicit (Basic plan) was used to source available articles for the literature review. Python 3.14 was used to verify content analysis and Claude Sonnett 5.5 to assist with code verification and the accuracy of the results. Mendeley was used to assist with citations without AI options.

The authors remain responsible and accountable for the contents of this work, the authentic and original contribution, reflects their own analysis, interpretation, insight and ideas.

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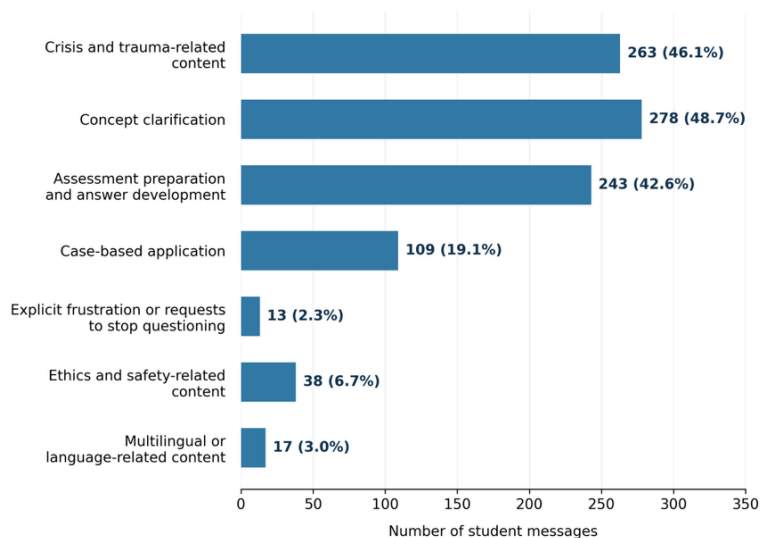
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Figures

A Coded patterns of student use



Dataset: 571 student messages and 975 tutorbot responses (1,546 messages in total).

B Pedagogical functions

- Content explanation and clarification
- Formative feedback on student responses
- Assessment rehearsal and case application
- Questioning and guided reflection

C Questioning in tutorbot responses

947 / 975 (97.1%)

Tutorbot responses contained a question mark.

Frequent questioning was consistent with an intended scaffolding approach. Educational effectiveness was not assessed.

Figure 1

Overview of coded patterns