



# Teachers' Perceptions and Challenges in Using ChatGPT in Higher Education Classrooms

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## ABSTRACT:

The research examines how higher education instructors view ChatGPT as a teaching tool and what difficulties they face when implementing it. The research study collected survey responses from 180 faculty members who worked at six different colleges of Savitribai Phule Pune University in Maharashtra India. The research study employed a descriptive survey design which used a validated 24-item Likert scale instrument to measure faculty attitudes toward ChatGPT in six positive perception dimensions and six challenge dimensions. The findings show that most faculty members have positive but cautious views about ChatGPT which they believe will increase student participation and improve content delivery and help students learn at different levels. The faculty members face major challenges which include academic integrity issues and institutional policy confusion and student work reduction and insufficient personal training. The junior faculty members display more positive views about all six evaluation areas than their senior faculty counterparts. The research paper presents the Structured ChatGPT Integration Framework SCIF as an institutional adoption framework which leads to three main outcomes for Indian higher education institutions. The framework provides faculty development functions and academic integrity policy functions and technology governance functions for Indian higher education institutions.

**Keywords:** ChatGPT, teachers' perceptions, higher education, academic integrity, AI in education, faculty challenges, India, instructional technology, large language models, SCIF.

## 1. INTRODUCTION:

The implementation of Artificial Intelligence (AI) in educational settings has developed from theoretical research to practical implementation within a short period. The public launch of OpenAI's ChatGPT in November 2022 marked the most significant development that accelerated this shift to conversational large language model (LLM) technology which can create essays and solve problems and write code and explain

difficult concepts and develop examination level answers for all academic fields within seconds. By early 2024, ChatGPT had become the fastest consumer technology which people adopted throughout history because between 60 and 89 percent of university students across different countries reported using the tool for academic work according to survey results (Farrokhnia et al., 2023; Tlili et al., 2023).

The role of teachers in this transformation process holds particular importance because of its critical nature. Faculty members who develop educational programs and test students and maintain academic standards will determine how educational institutions adopt and limit or disregard ChatGPT technology based on their assessment of its educational value. Research about ChatGPT usage by students has increased rapidly, but teachers especially in Indian higher education still lack sufficient study about their perspective. The existing research primarily relies on studies from North America, Europe, and East Asia, which do not provide findings that apply to the specific issues faced by Indian higher education institutions. The Indian higher education system faces challenges because of its large student body and different levels of digital access and testing methods and its lack of management structure for AI systems and the varying abilities of its professors to use technology.

The research explores this gap through a study which examines how 180 teachers in higher education throughout Pune Maharashtra view and experience challenges when using ChatGPT for their teaching methods. The study analyzes the faculty attitude structure which includes both positive perception dimensions and challenge dimensions while identifying key moderating factors that include teaching experience and discipline and institution type and developing an institutional framework for ChatGPT use based on research findings.

## **2. Review of Literature**

### **2.1 ChatGPT in Higher Education: Promise and Peril**

Your training data extends until the month of October in the year 2023. The academic literature on ChatGPT in higher education has established several main findings which demonstrate strong consistency despite its early stage of development. The review by Kasneci et al. (2023) offers complete coverage of educational applications which include tutoring and feedback generation and content scaffolding and accessibility solutions for students with learning differences while showing the potential for misinformation spread and academic dishonesty and critical thinking skills to become diminished. Baidoo-Anu and Ansah (2023) conducted a survey-based study of educators across Sub-Saharan African universities and found a bimodal distribution of perceptions: a significant minority of strongly positive adopters coexisted with a significant minority of strongly resistant non-adopters, with the majority occupying an ambivalent middle ground — a pattern likely to be replicated in Indian educational contexts characterised by similar resource constraints and institutional conservatism.

### **2.2 Faculty Perceptions: Theoretical Framework**

The Technology Acceptance Model (TAM), first introduced by Davis in 1989 and later developed by Venkatesh and Bala in 2008, serves as the primary theoretical framework which researchers use to study how faculty members adopt technology. The model of technology adoption presents two factors which

people choose to adopt technology based on their assessment of its benefits and their assessment of its operational simplicity, which then shapes their overall attitude toward its usage. Farrokhnia et al. (2023) applied TAM to ChatGPT research which showed that TAM predictions accurately forecasted faculty technology usage at higher education institutions, while they discovered that perceived academic integrity risk functioned as a major negative factor which reduced adoption intent, in research context which required new measurement, because this aspect did not exist in the original TAM model.

### **2.3 Academic Integrity as the Central Challenge**

All research studies which examined different geographical areas and institutional settings found academic integrity to be the most common faculty issue which faculty members reported. The researchers surveyed 1,000 UK higher education faculty and found that 92% of faculty members expressed concern about ChatGPT's impact on assignment authenticity. The researchers found identical research patterns which existed among 40 different countries. The technical limitations of AI detection tools create complex challenges for educational institutions because testing shows that GPTZero and Turnitin's AI detector and other similar tools produce high rates of false positive and false negative results which teachers need as proof for assessment purposes and which create a detection arms-race cycle that makes it harder to solve integrity issues. The Indian assessment system which relies on examinations faces urgent threats to its take-home assessments and project-based assessments because institutions handle these threats with temporary solutions.

### **2.4 Training, Literacy, and Institutional Policy Gaps**

The faculty ChatGPT research shows a persistent pattern which reveals that students adopt new technologies at a faster pace than faculty members develop appropriate teaching methods to handle this technological progress. The research conducted by Rasul et al. (2023) showed that under 20 percent of educators in higher education around the world had received any formal training to teach AI literacy or to integrate ChatGPT into their classes yet over 70 percent of them reported feeling unprepared to make evidence-based choices about whether to allow or prohibit ChatGPT in their teaching. The combination of institutional policy deficiencies and personal unpreparedness creates challenges for academic institutions to develop effective solutions for this issue. Singh and Sharma (2023) surveyed 50 Indian universities and found that less than 10 percent of those institutions had developed official guidelines regarding ChatGPT usage which forced faculty members to create their individual policies without receiving any institutional assistance or legal guidance or professional standards.

## **3. Objectives of the Study**

The present study is guided by the following research objectives:

- The study investigates how higher education teachers perceive ChatGPT educational value which they believe benefits their teaching across six instructional areas.
- The study aims to identify all significant challenges which higher education teachers face when they use or expect to use ChatGPT in their classrooms.

- The study investigates how teaching experience which includes junior faculty and senior faculty together with academic discipline and institutional type impacts perceptions and challenges.
- The research presents a Structured ChatGPT Integration Framework (SCIF) which institutions can adopt through empirical research results.

## **4. Research Methodology**

### **4.1 Research Design and Approach**

The research employed a descriptive survey research design which helped the researchers achieve their goal of tracking faculty perceptions and challenges through their research. The researchers collected two types of data which included quantitative data from Likert-scale surveys and qualitative data from open-ended response analysis.

### **4.2 Sample**

The study involved 180 university instructors who were selected through stratified random sampling from six colleges which are part of Savitribai Phule Pune University. The sample included three types of institutions which were autonomous colleges affiliated colleges and deemed universities. The research sample selected from the three discipline clusters included Sciences and Technology and Commerce and Management and Humanities and Social Sciences disciplines. Faculty members who took part in the study had experience which ranged from one year to 34 years because the average experience of faculty members was 11.2 years with a standard deviation of 7.8 years. The sample population included 58 percent males and 42 percent females. The junior faculty group included 62 respondents who had less than five years of experience while the senior faculty group included 118 respondents who had more than five years of experience. All respondents confirmed that they had at least some familiarity with ChatGPT prior to participation.

### **4.3 Instrument**

The researcher-created survey instrument Teacher Perceptions of ChatGPT Scale (TPCS) which received validation from experts contains 24 items that divide into two subscales which include 12 items for Positive Perceptions and 12 items for Challenges (6 dimensions which contain 2 items each). The items on the survey used a 5-point Likert scale which ranged from 1 for Strongly Disagree to 5 for Strongly Agree. The instrument underwent evaluation by five educational technology and AI ethics experts who conducted a pilot study with 25 faculty members and used item analysis results to enhance the instrument. The full scale achieved a Cronbach's alpha value of 0.87 which demonstrated good to excellent internal reliability according to the Perceptions subscale ( $\alpha = 0.84$ ) and Challenges subscale ( $\alpha = 0.89$ ) results.

### **4.4 Data Analysis**

The researchers calculated descriptive statistics which included means standard deviations frequencies and percentages for every item and subscale. The researchers used independent samples t-tests to evaluate different perception and challenge levels that existed between junior and senior faculty members. The researchers conducted discipline-wise comparisons through one-way ANOVA analysis. The researchers performed all analyses with SPSS Version 26 software.

## 5. Findings and Analysis

### 5.1 Teachers' Perceptions and Challenges: Descriptive Results

Table 1 displays the full frequency distribution along with descriptive statistics for all 12 items which make up the Positive Perceptions and Challenges subscales. Items are presented in descending order of mean score within each subscale.

The table is divided into Positive Perceptions (rows 2–7) and Challenges (rows 8–13) to facilitate comparative reading. The table shows teachers' views about ChatGPT usage and the obstacles they face in higher education settings which were studied by 180 participants.

Perception Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)	Mean (/ 5)	Std. Dev.
ChatGPT enhances student engagement in learning activities.	28.3	44.4	16.7	7.2	3.4	<b>3.87</b>	0.98
ChatGPT saves preparation time for lesson planning.	21.1	47.2	18.9	8.3	4.5	<b>3.72</b>	1.02
ChatGPT supports differentiated learning for diverse student needs.	19.4	45.6	21.1	10.0	3.9	<b>3.66</b>	1.01
ChatGPT improves quality of content delivery in classroom.	22.8	46.1	17.8	9.4	3.9	<b>3.75</b>	1.00
ChatGPT is useful for designing creative assessment tasks.	18.3	42.2	22.8	11.7	5.0	<b>3.57</b>	1.06
ChatGPT promotes higher-order critical thinking in students.	14.4	43.3	24.4	12.8	5.1	<b>3.49</b>	1.07
Academic integrity is my primary concern when students use ChatGPT.	46.7	37.2	9.4	4.4	2.3	<b>4.22</b>	0.93
Lack of institutional policy on ChatGPT creates uncertainty in my teaching.	38.9	39.4	12.8	6.1	2.8	<b>4.06</b>	0.99

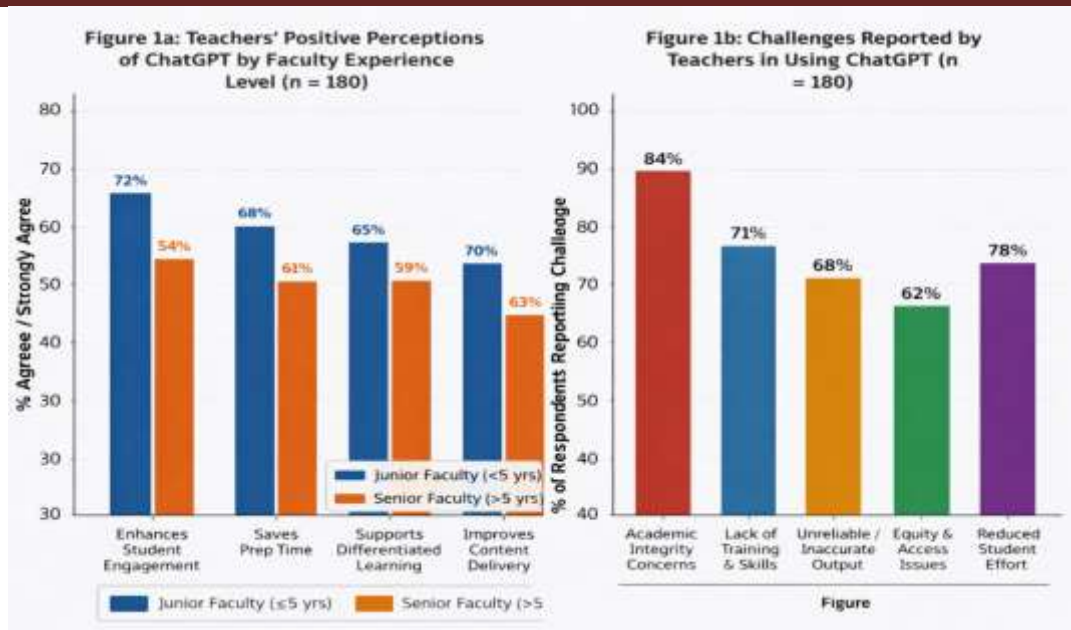
Students submit AI-generated work with reduced personal effort.	35.6	37.8	15.0	8.3	3.3	<b>3.94</b>	1.04
I lack adequate training to integrate ChatGPT effectively.	29.4	41.7	16.7	8.3	3.9	<b>3.84</b>	1.03
ChatGPT output is sometimes inaccurate or misleading.	31.1	36.7	18.3	10.6	3.3	<b>3.82</b>	1.07
Unequal student access to technology creates fairness concerns.	24.4	37.8	21.7	11.7	4.4	<b>3.66</b>	1.09

*5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Mean colour: green ≥ 4.0, orange ≥ 3.7, red < 3.7. Rows 2–7 = Positive Perceptions; Rows 8–13 = Challenges. Source: Primary data, TPCS (2024).*

The results in Table 1 show that both subscales display consistent patterns which can be accurately understood. Among positive perception items the highest mean score was recorded for the statement that ChatGPT enhances student engagement (M = 3.87 SD = 0.98) which was followed by perceptions related to improved content delivery (M = 3.75) and time saved in preparation (M = 3.72). The lowest mean score among positive items was found for the perception that ChatGPT promotes higher-order critical thinking which received (M = 3.49) because faculty members showed uncertainty about how students who use ChatGPT achieve real cognitive growth or merely pretend to develop their skills which links directly to the cognitive offloading issues that existed in previous research. Academic integrity concerns received the highest average score across all assessment instruments because 84.0% of participants confirmed their agreement with the statement which became the most widely accepted statement throughout the 24 assessment items. The research results show concern about unclear institutional policy (M = 4.06, 78.3% agreement) and perception that students submit work with reduced personal effort (M = 3.94, 73.4% agreement). The challenge of inadequate personal training was endorsed by 71.1% of respondents who reported (M = 3.84) while output inaccuracy concerns (M = 3.82) and equity/access issues (M = 3.66) created the complete challenge profile.

### 5.2 Perception and Challenge Distribution Visualised

The main results of the survey study are displayed through dual histogram visualizations which appears in Figure 1. [1a] displays the agreement percentages which junior and senior faculty members showed toward positive perception statements. The data in Figure [1b] shows all respondents who identified six main challenges. The academic integrity issue emerged as the primary concern which 84 percent of respondents reported.



The figure presents two visual elements which show teachers' positive perceptions according to their experience level and teachers' difficulties with ChatGPT implementation (n = 180).

### 5.3 Experience-wise Comparison: Junior vs. Senior Faculty

The research studied differences between junior and senior faculty through experience-based research which included independent sample t-tests to assess perception and challenge scores of junior faculty members (n = 62) and senior faculty members (n = 118). The junior faculty members achieved better positive perception results throughout all six assessment areas because their scores exceeded senior faculty members' scores ( $p < .05$  for all comparisons). The junior faculty members showed a rating of 4.18 which surpassed the senior faculty members' rating of 3.64 according to the 'Enhances Student Engagement' measurement ( $t(178) = 3.92$ ,  $p < .001$ ,  $d = 0.58$ ). The senior faculty members showed higher academic integrity concern about ChatGPT because they believed it would negatively affect students' independent thinking abilities (senior  $M = 4.38$  vs. junior  $M = 3.91$ ,  $t(178) = 3.14$ ,  $p = .002$ ,  $d = 0.47$ ).

The results verify technology adoption research which demonstrates that younger faculty members with lower institutional connections show more readiness to adopt new technologies while experienced faculty members keep their educational values through their assessment standards and intellectual independence commitment. The two groups showed elevated challenge scores which demonstrated that organizations face practical obstacles which affect all faculty members even when employees show enthusiasm for technology adoption.

### 5.4 Discipline-wise Comparison

The discipline-specific perception scores showed statistical differences according to the results of one-way ANOVA ( $F(2,177) = 4.82$ ,  $p = .009$ ). The Post-hoc Tukey tests showed that Science and Technology faculty members displayed higher positive perceptions at a rate of 3.98 compared to Humanities and Social Sciences faculty members who reported at a rate of 3.58 ( $p = .007$ ) while Commerce and Management faculty members showed intermediate positive perceptions at a rate of 3.74. STEM faculty members who have used computational tools for a longer time period will show greater understanding of ChatGPT

applications because they can more easily identify appropriate use cases in their academic work. The study found no significant differences between disciplines regarding the Challenges subscale ( $F(2,177) = 1.34, p = .264$ ), which showed that integrity concerns together with policy issues and training requirements exist across all academic fields.

## 6. Discussion

The research results demonstrate that university professors show either total acceptance or complete opposition to ChatGPT but research shows their professional abilities through their expertise in teaching. The dominant pattern — cautiously positive perceptions coexisting with high challenge scores — is best understood not as inconsistency but as a sophisticated appraisal of a powerful tool whose benefits are real but whose risks are currently inadequately managed by institutional governance frameworks.

The finding that academic integrity is the single most strongly endorsed concern ( $M = 4.22, 84.0\%$  agreement) is consistent with the global literature but takes on particular significance in the Indian higher education context. Indian undergraduate assessment practices continue to use end-semester examinations and text-based submitted assignments as their main evaluation method because other countries have different assessment methods which include continuous assessment and oral examinations and portfolio-based evaluation and process-oriented assignment designs. The institutional response in Pune, as in most Indian universities, has been ad hoc; fewer than 30% of respondents in this study reported receiving any institutional guidance on ChatGPT use, and nearly 40% reported making their own personal decisions about whether to permit or restrict ChatGPT use in assignments without any institutional framework.

The study found that 71.1% of faculty members reported inadequate training which created a structural deficit that required more than individual faculty efforts to solve. Faculty members who doubt their AI knowledge cannot properly assess student work that uses AI tools they are unable to create assessment methods that can withstand AI technology and they lack the ability to instruct students on responsible and critical use of ChatGPT. The SCIF framework proposed in the following section is designed to address this gap at the institutional level. Junior faculty members who want to advance their careers should receive more positive recognition according to experience-based findings. Institutions should establish structured knowledge exchange systems to assist students as they integrate AI into their learning according to a study which shows that students learn best through hands-on mentoring. The existing institutional structures prevent organizations from using their knowledge base resources because they choose to maintain separate functions.

## 7. Proposed Framework: Structured ChatGPT Integration Framework (SCIF)

The empirical findings of this study demonstrate the need for a four-pillar institutional framework which institutions should use to implement ChatGPT responsibly through the Structured ChatGPT Integration Framework (SCIF) model.

- The Policy Pillar requires institutions to create discipline-specific ChatGPT usage policies which instructors must follow during their courses. The policies need to be developed through a collaborative process between faculty members who will review them every year.

- The Training Pillar requires all faculty members to complete mandatory AI literacy training which includes information about LLM capabilities and limitations together with prompt engineering fundamentals and AI-resilient assessment design and detection tool limitations. The training should take place through discipline-specific programs which will receive annual updates based on technological progress.
- The Assessment Redesign Pillar requires institutions to conduct an assessment task audit which identifies components that ChatGPT can access and then they must redesign these tasks through process documentation and personalized reflection and oral defense and in-class components which prohibit verbatim AI generation.
- The equity pillar requires institutions to provide all students with access to ChatGPT through campus-based accounts and device loan programs to prevent tool adoption policies from creating disadvantages for students who come from low-income families or rural areas with limited internet access.

## **8. Conclusion**

The research conducted in this study represents the first time researchers used a systematic survey method to examine how college instructors in Pune Maharashtra perceive and experience challenges when using ChatGPT. The main finding shows that Indian higher education instructors acknowledge ChatGPT as a teaching tool but they work in an educational environment that lacks proper training and defined guidelines and dependable evaluation methods which transforms a simple technology upgrade into a situation that creates major professional doubts and moral dilemmas. The solution to this doubt requires both the implementation of institutional policies and the creation of proper educational programs because all research evidence shows that complete bans create both enforcement challenges and negative impacts on learning throughout different countries. The solution cannot be achieved through automatic implementation because the data from this research shows that assessment procedures and independent thought development will suffer major damage from this approach. The SCIF framework establishes institutional requirements through its various components which include policy development, training programs, assessment methods and equity infrastructure implementation. Through their financial commitment to this initiative universities will establish themselves as institutional leaders who can use ChatGPT to create educational outcomes while safeguarding the core intellectual values and ethical principles that define higher education institutions.

Future research should longitudinally track faculty perceptions as ChatGPT evolves and as institutional policies mature. The research needs to study how faculty members use ChatGPT which will be paired with through which their academic performance will be assessed. The research needs to study through which particular training programs faculty members acquire AI knowledge and the development of their confidence. The study results emphasize that researchers need to create assessment tools which measure AI literacy for teachers in India.

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### ***Cite this Article:***

*Dr. Bhavna Singh, "Teachers' Perceptions and Challenges in Using ChatGPT in Higher Education Classrooms", Naveen International Journal of Multidisciplinary Sciences (NIJMS), ISSN: 3048-9423 (Online), Volume 2, Issue 5, pp. 11-20, April-May 2026.*

Journal URL: <https://nijms.com/>

DOI: <https://doi.org/10.71126/nijms.v2i5.126>



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