Teaching Competence of Teachers Working In Higher Education Institutions of Odisha

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Abstract

Higher education teachers are crucial for improving the educational system, and classroom instruction has a direct impact on the quality of education.The competence of higher education teachers is the most crucial factor in implementing all educational innovations at the basic level.This paper aims to study the level of teaching competence and compare the teaching competence of teachers working in higher education institutions with respect to gender, qualification, experience, age, and stream in Odisha.The method employed was a descriptive survey.The sample for the study was 156 teachers selected using a stratified random sampling technique from 10 higher education institutions. The data was gathered through an observation schedule.The analysis was conducted using SPSS and various non-parametric tests.The study found that there is no significant difference in teaching competence of higher education teachers with reference to gender, age, experience.But there is a significant difference in the teaching effectiveness of educators with regard to stream. The study recommends increasing participation in capacity building through workshops, seminars, training, self-study, and online courses to enhance the teaching competence of higher education teachers.

Keywords: Teaching Competence, Content Knowledge, Instructional Strategies, Classroom Management, Students' Engagement, ICT Integration, Assessment and Feedback.

Introduction

Quality teaching has become an issue of importance as the landscape of higher education has been facing continuous changes. The student body has considerably expanded and diversified, both socially and geographically. New students call for new teaching methods. Modern technologies have entered the classroom, thus modifying the nature of the interactions between students and professors. Hanushek, Kain and Rivkin (1998), like many other researchers, have concluded that the school effect on achievement derives mainly from variations in teacher quality. Key competences are those competences that are needed for performing any professional activity and they include information-communication competences, social-working competences, language competences, cultural competence, organizational competences, didactic competences, pedagogical thinking, cognitive-creative competences, psychological competence, evaluative competences, in order to better achievements of students (Prasad, A. B.et al,2022).

Conceptualization of Teaching Competence

Competence in teaching is essential for effective learning. It is reflected in a teacher's working style and behaviour, influenced by motives, traits, self-image, social role,

skills, and knowledge, which affects the institution and profession (Saharir,2023).The basic teaching competencies have 6 categories: (a) Director of Learning; (b) Counsellor and Guide; (c) Member of the School Community; (d) Mediator of Culture; (e) Citizen in a Community; (f) Member of the Teaching profession (Thomas,2022).Teaching competencies consist of nine subgroups: field, research, curriculum, lifelong learning, social-cultural, emotional, communication, ICT, and environmental competencies (Nikola,2021).Smith (1971) identified four areas of teaching competence: competence in learning theories, attitudes fostering learning, subject knowledge, and mastery of teaching skills and techniques**.** Riwukore and Habaora (2021) defined teaching competence as tasks and rules, mastering teaching materials, planning lessons, controlling and evaluating student activities, among other aspects. Singh (2010) defined teaching competence as the ability to effectively manage classrooms, assess student achievement, control materials, and manage learning programs. The International Encyclopaedia of Teaching and Teacher Education categorizes teaching competencies into six groups: cognition, performance, consequence, managerial, assessment, and effective teaching (Dunkin,1987). Huda and Teh (2018) define professional competence as understanding student needs, content knowledge, curriculum, educational framework, teacher role, subject applications, classroom strategy, administration, assessment, and recording. Teaching competence encompasses a teacher's ability to plan lessons, represent subjects, manage classrooms, and assess student performance. It involves handling materials, controlling learning programs, assessing progress, and controlling the classroom. It involves employing pedagogical techniques, recognizing students' abilities, and modifying instruction accordingly(Sudirman, et.al,2019). Teaching competencies include lesson introduction, explanation, pace, reinforcement, child psychology comprehension, classroom management, and assignment distribution. The study identifies teaching competence as a combination of content knowledge, instructional strategies, classroom management, student engagement, ICT integration, assessment, and feedback.

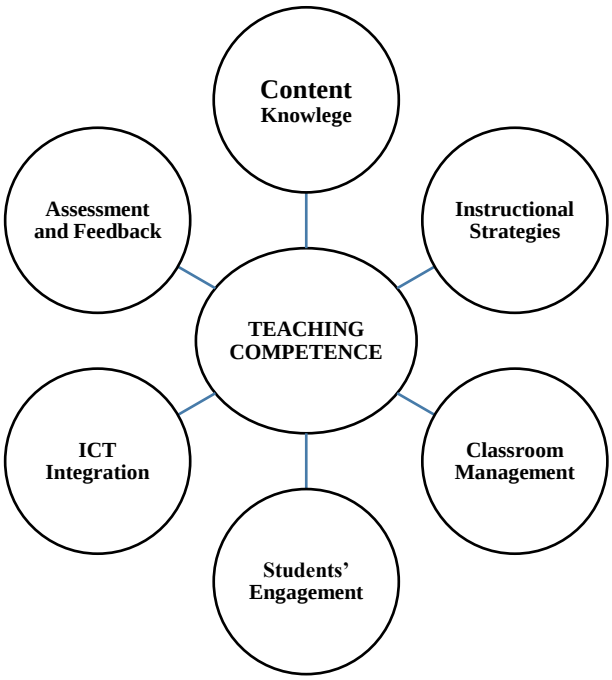

Figure-1. outlines the components of teaching competence (Dunkin,1987; Huda & Teh,2018; Sudirman, et.al,2019).

Content knowledge is defined as identifying learning points, organizing content, citing references, discussing practical aspects, and connecting topics to school context and personal experience. Instructional strategies involve sequencing content, using appropriate methods, illustrating examples, providing explanations, revising topics, organizing activities, motivating students for independent learning, and using interactive strategies and teaching aids. Classroom management involves creating a conducive environment, encouraging student questions, providing reinforcement, maintaining discipline, maintaining attentiveness, patient listening, adhering to class equality, and sharing learning resources. Student engagement involves various activities like active participation in teaching, group projects, class presentations, critical thinking, feedback improvement, and peer learning. CT integration in teaching involves using PPT, video links, e-learning materials, online resources, online assessments, and educational mobile apps for effective learning and teaching. Assessment and feedback involve questioning, appreciating students, using various questions, planning remedial classes, using feedback for improvement, asking questions after learning points, giving practical assignments, and using portfolios or projects.

Rationale of the Study

The UGC regulation 2010 established API scores for teaching, learning, evaluation, co-curricular, professional development, administration, and governance activities. Faculty members must acquire minimum API scores from each category for promotion and direct recruitment to associate professor and professor positions. The National Assessment and Accreditation Council (NAAC) assigns weights of 300 marks to key indicators for teaching, learning, and evaluation, which include student enrolment and profile, catering to student diversity, the teaching-learning process, teacher profile, and quality, the evaluation process and reforms, student performance and learning outcomes, and a student satisfaction survey.The study found a positive correlation between teaching competence and the achievement of students in higher education institutions (Karahan, 2018).Long et al. (2021) discovered that the interaction between lecturers and students significantly impacts their satisfaction.NEP-2020 states that empowered faculty with high competence and deep commitment are energized for excellence in teaching and research in the higher education sector.Pucya and Austria (2023) revealed that the college teachers have very high levels of online teaching competency.Zamora and Zamora (2022) foundthat the teachers' skills and competence are of high to very high extent. Manuel et al (2023) found that teachers are high competence in instructional preparation and delivery, moderate competence in assessment techniques, and lower competence in the implementation of teaching methods during instruction. Jankovic and Stanojevic-Gocic (2023) revealed that lecturers hold a positive perception of their teaching competencies in relation to teacher leadership and content knowledge. Suhail Ahmed Khan (2021) found revealed that Teaching Competency and attitude towards creative teaching has difference exists in percentage of trainee-teachers. The teaching competency of trainee-teachers is found a significance differences between the Pedagogical groups. Attitude of trainee-teachers towards creative teaching mean have significant difference exists in their Gender, Caste, and Qualifications bases.Prasad, et.al, (2022) revealed that there is need for improving the quality of the education system by identifying faculty abilities essential for effective recruiting, training, and performance management in higher educational institutions.Thao (2020) found that

there is no significant difference in teaching competency among higher education teachers based on their locality and educational.Nbina(2012) obtained that There is a significant correlation between teachers' competence and students' academic performance in chemistry, with qualified and experienced teachers performing better than unqualified and inexperienced teachers.Yang and Chang (2023) found that there is a significant positive effect of university teachers' competency on their engagement and job performance. The result showed that there were no significant differences in the level of teaching competency based on Educational Qualification and Locality (Caires & Almeida,2021). Cao et.al. (2022) found that (i) the training quality at Technical Pedagogical University that school administrators and lecturers from Technical Pedagogical University reported was relatively high; (ii) the levels of satisfaction with task requirements at Technical Pedagogical University reported by school administrators at vocational schools were relatively high.Surekha (2023) revealed that Government and private School teachers differ significantly on various levels of teaching competency. Teachers Government School teachers were found better teaching competency as compared to Private School teachers. Further, it was found that locality has significant impact on teaching competency of mathematics teachers; urban School teachers were found more competency as compared to rural school teachers.Qadhiet.al (2020) found that revealed female teachers are more competent in teaching than the male teachers. It is also found that competency of teacher's above 40 is higher than the teachersage up to 40. Thus, competency of experienced teachers is higher than inexperienced teachers.Bergsmann et.al (2019)demonstrated that an excellent university teacher functions as a learning facilitator and pedagogical specialist who is passionate about the teaching profession, has in-depth knowledge of the academic field, and uses a variety of teaching methods that support students learning. Alwi et.al (2021)stated that the majority of teacher educators are competent towards ICT, and there is no significant difference between male and female teacher educators towards ICT. Teh, K. P. (2022pointed out that there is a substantial correlation between teaching competency and teaching experience among secondary school teachers, but there is no significant effect on teaching competence**.**Vân Werven et.al (2023) discovered that a competent university teacher has a diverse knowledge base, various professional positions, and continuously strives to enhance their skills. Khatoon and Akhtar (2011) inferred that there is no significant difference towards teaching competency among teacher educators with respect to gender, qualification and teaching experience. Amhag et al. (2019) reflected that teacher educators do not use digital tools primarily for pedagogical purposes. Rajeswari and Sree (2017) reported that there is no significant difference in the teaching competency of teacher educators with regard to gender.

The review of literature suggest that few studies have been conducted on teaching competence of teachers working in higher education institutions of Odisha, hence conducting this research in Odisha is relevant.

RESEARCH QUESTIONS

1. What is the level of teaching competence of teachers working in higher education institutions?
2. Is there any difference in teaching competence of teachers working in higher education institutions with respect to gender, age, qualification,experience, and stream?

Objectives

1. To study the level of teaching competence of teachers working in higher education institutions.
2. To compare the teaching competence of teachers working in higher education institutions with respect to gender, qualification, experience, age, and stream.

Hypotheses

1. H_0: There is no significant difference in teaching competence of teachers working in higher education institutions with respect to gender.
2. H_0: There is no significant difference in teaching competence of teachers working in higher education institutions with respect to qualification.
3. H_0: There is no significant difference in teaching competence of teachers working in higher education institutions with respect to experience.
4. H_0: There is no significant difference in teaching competence of teachers working in higher education institutions with respect to age.
5. H_0: There is no significant difference in teaching competence of teachers working in higher education institutions with respect to stream.

Methodology

The investigator used a quantitative research design for the present study to study the level of teaching competence of teachers. The survey method was employed to gather quantitative data on the teaching competence of teachers working in higher education institutions. The sample for the present study consists of 156 higher education teachers in the state of Odisha. This sample was selected from higher education institutions by using a stratified random sampling technique. The investigators used a self-developed rating scale consisting of 56 items intended to assess the level of teaching competence of higher education teachers. These items are based on six components of teaching competence, such as content knowledge, instructional strategies, classroom management, students' engagement, ICT integration, assessment and feedback. The Likert-type scale of three options, such as high competency (HC) (3 points), moderate competency (MC) (2 points), and low competency (LC) (1 point used as a scale. The content validity of the rating scale was ensured by taking experts' opinions on the items. On the basis of the comments and suggestions, the tool was finalized. The Cronbach Alfa reliability (0.89) was estimated, which was found to be significant. The collected data was coded numerically and entered in MS Excel for analysis. The researcher used frequency count, percentage, and chi-square for data analysis and interpretation in SPSS software.

Data Analysis and Interpretation

The data was analysed as per the objectives and hypotheses of the study. The researcher used non-parametric statistics such as Mean rank and Mann Whitney test for data analysis and interpretation which are presented in the following paragraphs.

Table-1. Teaching competence of male and female higher education teachers

Category	N	Mean Rank	Mann Whitney U	Z	Sig.	Remarks
Male	99	77.87	2759.500	.228	.819	NS*
Female	57	79.59				

*not significant

The table-1indicated that the mean rank of teaching competence of male teachers is 77.87and female is 79.59. The Z value of Mann Whitney is .228 and estimated significance is .819. Therefore, the null hypothesis there is no significant difference in teaching competence of male and female higher education teachers is not rejected at 0.05 levels. It can be concluded that both male and female higher education teachers have same level of teaching competence.

Table-2. Teaching competence of higher education teachers as per qualification

Category	N	Mean Rank	Kruskal Wallis	df	Sig.	Remarks
PG with NET	21	77.50	.768	2	.681	NS*
M. Phil with NET	45	73.88				
Ph. D	90	81.04				

*not significant

The table-2 revealed that the mean rank of teaching competence for teachers in higher education who hold a PG with NET qualification is 77.50, a Ph.D. is 81.04, and an M.Phil. with NET holders is 73.88. The value inferred from Kruskal Wallis test is .768and significance value .681. The results showed that thereis significant difference among higher education teachers in teaching competence as per qualification. Hence, the hypothesis is rejected at 0.05 level. It can be generalized that higher education teachers with higher qualification have better teaching competence.

Table-3: Teaching competence of higher education teachers as per experience

Category	N	Mean Rank	Kruskal Wallis	df	Sig.	Remarks
Up to 10 Years	74	74.55	1.130	2	.568	NS*
11-20 Years	59	82.77				
21-above Years	23	80.26				

*not significant

It is depicted from the table-3 tha the calculated mean rank of teaching competencies 74.55 which is lowest among higher education teachers carries teaching experience upto10 years and mean rank of teaching competence is 82.77 among teachers having11-20yearsofteachingexperience.Themeanrankofteachingcompetenceamong teachers having teaching experience above 21 years is 80.26. The estimated Kruskal Wallis valueis1.130 with significance value.568. Therefore, the null hypothesis “there

is no significant difference in teaching competency of teacher educators as per experience" not rejected at0.05levels.

Table-4: Teaching competence of higher education teachers as per age

Category	N	Mean Rank	Kruskal Wallis	df	Sig.	Remarks
Up to 40 years	74	73.95	1.652	2	.438	NS*
41-50 years	58	84.11				
51 and above years	24	78.98				

*not significant

The table-4 indicated that mean rank of teaching competency of teacher educators between 41-50 years of age is 84.11and upto 40 avails 73.95. Again, above 51 years age group reflected that mean rank of teaching competency of educators is 78.98. The calculated Kruskal Wallis value is 1.995 and estimated significance value is .369. Thus, the results shows that the "there is no significant difference in teaching competency of educators as per age" and null hypothesis is not rejected at 0.05 level.

Table-5:Teaching competence of higher education teachers as per stream

Category	N	Mean Rank	Kruskal Wallis	df	Sig.	Remarks
Arts	53	56.17	28.899	2	.000	Significance
Science	53	103.14				
Commerce	50	76.05				

The table-5 reveals that calculated mean rank of teaching competence of higher education teachers of commerce stream is 76.05, Science is 103.14and arts is 56.17. The estimated Kruskal Wallis value is 28.899and significance is .000. Therefore, the null hypothesis "there is no significant difference in teaching competence of higher education teachersas per stream "rejected at 0.01 level. It can be concluded that higher education teacherswith science streams have higher level of teaching competence as compare to arts and commerce streams

Major Findings of The Study

- There is no significant difference in teaching competence of male and female higher education teachers at 0.05 levels. It can be concluded that both male and female teacher higher education teachers have same level of teaching competence.
- There is no significant difference in teaching competence of higher education teachers with reference to qualification at 0.05 levels. It can be generalized that higher education teachers have same level of teaching competence with respect to qualification
- There is no significant difference in teaching competence of higher education teachers as per experience not rejected at 0.05 levels. Higher education teachers with different range of experience have similar teaching competence.
- There is no significant difference in teaching competence of higher education teachers as per age at 0.05 levels. The age has no statistical impact on the teaching competence of higher education teachers.

- There is significant difference in teaching competence of higher education teachers as per stream at 0.01 level. It can be concluded that higher education teachers with science streams have higher level of teaching competence as compare to arts and commerce streams.

Discussion Of Results

The results of the study revealed that there is no significant difference in teaching competence of male and female higher education teachers at 0.05 levels. This result is supported byprevious research studies (Karahan,2018; Nikola,2021; Prasad et al.,2022; Manuel et al.,2023). However,(Dunkin, 1987; Bergsmann et al.,2019; Caires,2021) found that male teachers have higher teaching competence than female teachers of higher education institution due to more use of ICT technology in teaching learning process.Research study also stated that there is no significant difference in teaching competence of higher education teachers with reference to qualification at 0.05 levels. This is in accordance with the study conducted by (Caires et al.,2021; Cao et al.,2022; Jankovic & Stanojevic 2023). This is in contrast with the study conducted by (Karahan,2018;Long et al.,2021;Manuel et al.,2023)which indicates that teachers with higher qualifications have more teaching competence than others.Further, the present study revealed that there is no significant difference in teaching competence of higher education teachers as per experience at 0.05 levels.This study is supported by (Karahan, 2018; Thao,2020; Manuel et al.,2023; Nikola,2021).This is in contrast to research by Huda and Teh (2018), Long et al. (2021), and Yang and Chang (2023) which found that experienced teachers are more competent teachers than less experienced ones since they have equal access to resources in higher education. The research of the study also revealed that there is significant difference in teaching competence of higher education teachers as per stream at 0.01 level. This result is supported with the previous studiesRajeswari& Sree, 2017; Alwi et al.,2021; Manuelet al.,2023; Nikola,2021;Pucya& Austria,2023). However, the research by Riwukore&Habaora, 2021; Hanushek et al., 1998; Zamora & Zamora, 2022) contradicted the findings of those researchers who reported that higher education teachers exhibited the same level of teaching competence in relation to stream due to growth of professional developments.

Educational implications and conclusion

Higher education teachers play a crucial role in nation-building, which takes place in the educational classroom. So, a teacher must have competence in teaching, which involves subject knowledge, instructional strategies, classroom management, pupil engagement, ICT integration, assessment, feedback, lesson introduction, reinforcement, expertise in child psychology, assignment distribution, and enthusiasm for professional development.The results of this study have implications for principals, trainers, teachers, and policy makers.The study recommends increasing participation in capacity building through workshops, seminars, training, self-study, and online courses to enhance the teaching competence of higher education teachers.

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