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CBCS in Higher Education: An Impact Analysis

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Abstract

The Choice-Based Credit System (CBCS) represents a major shift in the Indian higher education framework, aiming to enhance flexibility, encourage student-centred learning, and align curricula with global standards. Despite its potential, the impact of CBCS on faculty perceptions and its effectiveness in diverse academic streams remains a subject of debate. This study seeks to analyse the impact of CBCS on higher education at Chhatrapati Shahu Ji Maharaj University (CSJMU), Kanpur, focusing on faculty members from the Arts and Science streams. The objectives were to assess overall faculty perceptions of CBCS and to compare views between these two academic groups. A mixed-methods design was adopted, utilising a Teachers' Perception and Attitude Scale towards CBCS (TPAS-CBCS) and semi-structured interviews. Quantitative data from 70 faculty members were analysed using descriptive statistics and an independent samples t-test. Results indicated no significant difference in opinions between Arts and Science faculty members, suggesting a broadly shared perspective on CBCS. Qualitative insights highlighted both appreciation for flexibility and concerns over resource availability and implementation challenges. The findings imply that while CBCS is generally perceived positively and has the potential to promote interdisciplinary and student-centred approaches, its success depends on continuous faculty development, student guidance, and infrastructural support. This study offers valuable insights for policymakers and institutions aiming to strengthen CBCS implementation and improve higher education quality in India.

Keywords: *CBCS, TPAS-CBCS, Grading System, Elective Subjects, Art Stream, Science Stream.*

Introduction

The Choice Based Credit System (CBCS) has proved to be a milestone for the education system in India (Reddy, P.K., 2020). The CBCS is aimed at steering a multi-disciplinary approach to the class (Gupta, S., 2023). The class under the CBCS system has been designed in such a way that it can be reestablished as per the requirements of the education system and also ensure globalisation (Kumar, R., & Sharma, P., 2018). The curriculum includes optional studies in addition to basic subjects. Whereas the core subject is one of the required subjects that students must take to receive the designated degree, the optional subjects allow students to select any subject that interests them (Sharma, R., & Verma, K., 2017). Through rigidity in the classroom, this kind of CBCS program assists students in realising their potential and can consequently increase students' productivity at work. The class structure and credit allocation are rigid, based on the hours of tutoring and the course material. Relevant guidelines are also provided for the CBCS's incorporation of vocational chops, which will allow the campaigners to acquire these

skills (Sharma, P., & Reddy, K., 2018). Piecemeal from all of these, an offer has also been made to incorporate soft skills and value-added programs into the CBCS program, and plans have been made to periodically provide faculty members with relevant training to enable their successful implementation. CBCS equips students with the skills, knowledge, and capacities by coordinating the classroom with assiduity requirements and norms (Kumar, S., & Singh, R., 2019). Aside from this, several recommendations were made to raise the standard of education, like allowing students to select the courses they want to study.

Fig. 1- Conceptual Terminology Inherited in CBCS

Main Component of CBCS

Academic Year

The Choice-Based Credit System (CBCS) operates on the principle of two consecutive semesters, one odd and one even, which together constitute an academic year. A comprehensive grading system is implemented, wherein the assessment and evaluation of student performance in each subject are conducted after every semester.

Credit and Credit Points

Credit is a measure used to quantify the coursework. It establishes how many lesson hours must be completed each week. One credit is equal to one hour of tutorial or lecture instruction, or two hours of fieldwork or practical work each week.

Credit points serve as a metric to quantify the extent of coursework undertaken by a student. They indicate the number of instructional hours required per week. Specifically, one credit corresponds to one hour of lecture or tutorial instruction, or two hours of practical or fieldwork, per week throughout the semester.

Cumulative Grade Point Average (CGPA)

The same formula is used to determine the CGPA, accounting for every course that a student has taken during a program's semesters.

$$CGPA = \frac{\text{Total credit points secured by a student}}{\text{Total credit points for the semester}}$$

$$CGPA = \frac{Ci*Si.}{\text{Sum of } Ci}$$

Where Ci = Total Number of Credits in a semester.

Si = Semester Grade Point Average (SGPA)

Semester Grade Point Average (SGPA)

It serves as a gauge for the calibre of work completed over a semester. It is the proportion between the overall number of course credits taken during a semester and the total number of credit points earned by a student in all of the courses they registered for.

$$SGPA = \frac{\text{Credit Points secured by a student in a sem.}}{\text{Total course credit for that sem.}}$$

$$SGPA = \frac{Ci*Gi.}{\text{Sum of } Ci}$$

Where Gi = Grade point secured in a semester.

CGPA and SGPA shall be rounded to 2 decimal points.

Grade Point and Letter Grade

Each letter grade has a numerical weight on a 10-point scale. It gauges how well students performed in that particular subject.

Table 1 (Allocation of Later Grade and Grade Point)

S. No.	Letter Grade	Grade	Grade Point
1.	O	Outstanding	10
2.	A+	Excellent	9
3.	A	Very Good	8
4.	B+	Good	7
5.	B	Above Average	6
6.	C	Average	5
7.	P	Pass	4
8.	F	Fail	0
9.	Ab	Absent	0

Semester

A semester system was used by CBCS instead of a year-long academic plan. There will be 15–18 weeks of academic work in a semester, which is equal to 90 real teaching days. It is possible to schedule the even semester from January to June and the odd semester from July to December.

Transcript or Grade Card, or Certificate

After each semester, every enrolled student will be issued a grade certificate reflecting their academic performance. This certificate will include detailed information such as course code, course title, number of credits, and the grade secured in each course. Additionally, it will display the Semester Grade Point Average (SGPA) for that particular semester, as well as the Cumulative Grade Point Average (CGPA) attained up to that point.

Assessment

CBCS uses a new method in place of the traditional assessment system, where the basis of the traditional assessment was only the examination result. On the other hand, CBCS is based on classroom attendance, Co-Curricular Activities, and Extracurricular activities, so self-discipline is encouraged in the students.

Importance of CBCS

The Choice Base Credit System was introduced by the University Grant Commission (UGC-2015) to bring reforms in Higher Education, enhance learning opportunities, Providing Inter-university transfer of students, enhance educational quality, encourage vocational education in India, and give students the freedom to choose subjects in higher education according on their interests (Singh, R., & Kaur, P., 2018). After the CBCS system, Indian Education Started to be conducted according to the Semester System instead of annual, based on global standards (Kumar, S., & Srikant, S., 2016). Students can add interdisciplinary and intradisciplinary subjects to their curriculum voluntarily, so that the students can make school education interesting by including subjects of interest in their curriculum. and this way, a student affiliated with the science department can become a writer, and a student of the literature department can take Computer Education. In this sense, vocational education can be promoted in schools as well (Gupta, S., Sharma, M., & Shukla, P., 2025).

Shahid Mazid Bhat (2017) stated that the implementation of CBCS is a great initiative to improve higher education. The basic purpose is to enhance Academic Quality in all aspects, right from the curriculum to the teaching process to the examination and evaluation system. According to Chahal D. & Muneeb Manan (2017), it can be observed that very dull students, when kept engaged, may be able to get mastery over the subject and skill, and workload is not

the problem among the students. More involvement increases the ability of students. Aithal & Suresh Kumar (2016) suggest that the CBCS maintain the level of the Indian education system at per the global level and redefine the curriculum to keep pace with liberalisation and globalisation in Education. Along with the ability to transfer credits acquired, CBCS offers students a convenient way to go to other educational institutions located all over the world. So that CBCS is effective in the overall progression of the students, and also observe that teachers' experience varies experiences vary due to a different range of elective courses. Sanghi (2010) observed the CBCS system as a fair system, where students progress in the academic program not in terms of time but in terms of courses. Chaudhary (2012) defines CBCS as providing students with the option to choose additional subjects not related to core courses and therefore advocates CBCS, which can accommodate diverse choices of the students. Significant changes to the assessment and evaluation system are brought about by CBCS. The absence of an interdisciplinary approach has led to India losing its best students to other nations, according to Naidu & Sreedevi (2016). By enabling students to learn in an interdisciplinary way, where teachers from a variety of fields create a curriculum, teach the class, and grade the students, the CBCS will address this issue. Students are free to select the courses they want to take, learn at their own speed, enrol in extra classes, and earn more credits than they need. They contend that CBCS is essential to producing employable university graduates.

The researchers conducted a thorough analysis of various forms of relevant literature to establish a solid basis for their investigation of the CBCS system. The review of prior studies provided valuable guidance in shaping the framework and direction of this research. As CBCS has been relatively recently introduced in India, there is still a scarcity of comprehensive empirical studies exploring its practical implementation and impact across different academic streams (Gupta, S., & Singh, V., 2024). Therefore, this study plays a significant role in understanding the impact of CBCS in higher education in the context of Chhatrapati Shahu Ji Maharaj University (CSJMU). In this context, the study aims to examine the perceptions and attitudes of faculty members towards the implementation of CBCS at CSJMU, to investigate whether there is a significant difference in opinions between faculty members from the Arts and Science streams, and to explore the challenges and opportunities perceived by faculty members in the effective implementation of CBCS.

Objectives

1- To analyse the Impact of the Choice Based Credit System (CBCS) on the Indian Education System.

2- To compare the opinions on the impact of CBCS of faculty members of the Arts and Science departments.

Hypothesis

1- H0: There is no significant difference in mean scores of the opinions on the impact of CBCS between faculty members of the Arts and Science departments.

Methodology

In this study, the researchers collect and analyse both qualitative and Quantitative data therefore **Mixed Approach** (i.e. To elaborate on the impact of CBCS in higher education by qualitative approach and to compare the opinion on the impact of CBCS of the faculty members of the Arts and Science Stream by Quantitative Approach) is used by the researchers. In this study, the researchers want to know the Impact of the Choice Based Credit System on the Education System of different departments of CSJMU and compare the opinion on CBCS of Faculty Members of the Science and Arts Stream of CSJMU. therefore, this study is a **Descriptive type** of Research. In this study, the researchers gathered the opinions of the faculty members regarding the orientation of CBCS at different departments of CSJM. The researcher used the **Survey Method** in this study, and the researchers used the **T-Test** as a statistical technique for analysis of data.

The primary data related to the various objectives of the study have been collected from the sample drawn from faculty members of different departments of CSJM University. Therefore, this study relates to the following two populations to which the results of the study will be applicable:

Population-1: Faculty Members of the Arts, Humanities, and Social Science departments of CSJM University.

Population-2: Faculty Members of Science departments of CSJM University.

Sample

The study examined teachers' opinions on the Impact of CBCS on different aspects of the CBCS System. To elaborate on the impact of CBCS in higher education by a qualitative approach and to compare the opinion on the impact of CBCS of the faculty members of the Arts and Science Stream, 70 faculty members drawn from different departments constituted the sample.

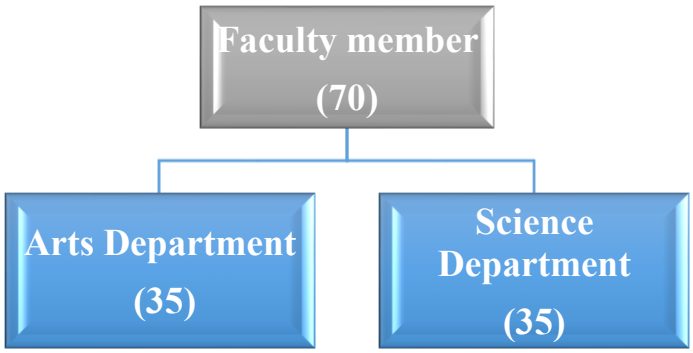

Fig. 2 Distribution of Sample

Sampling procedure

To study the actual challenges to implementing the CBCS, a comparative study of the opinions of faculty members of the Arts, Humanities, Social Science and Science departments. So, there will be 2 types of sampling procedures used for the selection of faculty members and the College and university.

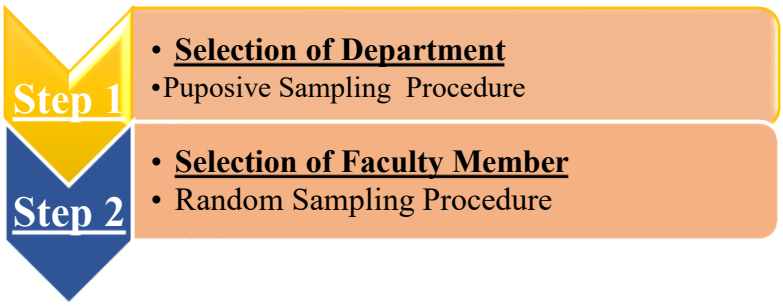

Fig. 3 Distribution of Sampling Procedure

Tool

The TPAS-CBCS scale consisted of 10 final statements after expert review, designed to measure faculty perceptions across key dimensions such as flexibility, student autonomy, interdisciplinary approach, grading satisfaction, and resource adequacy. Sample items included: "CBCS enhances the dynamism of higher education," "CBCS supports the development of vocational skills among students," and "The grading system in CBCS is better than the traditional system." Respondents rated their agreement on a 5-point Likert scale ranging from Strongly Disagree to Strongly Agree. The scale's content validity was ensured through expert review, and internal consistency was evaluated.

Finding and Analysis

The Researcher used not only a descriptive analysis but also an inferential analysis, which uses the researcher to draw inferences based on the table values and 't' values. The researcher used mean, standard deviation, and t-tests.

Table 2 Comparison of Opinions on CBCS Arts and Science Stream Faculty Members

Test	N	Mean	S.D.	Df	T-Value	P- Value
Art Stream	35	38.97	6.16	68	2.03	.36
Science Stream	35	40.38	6.11			

Df=6, Significance level at 0.05 level

The above table 2 and Figure 5 show that the mean score of faculty members of the Arts Stream was 38.97 and the mean score of faculty members of the Science Stream was 40.38, with a standard deviation of 6.16 and 6.11 respectively. The calculated 't' value ('t'= 2.03) is approximately equal to the table value (2.024) at 0.05 with df = 33. Hence, the null hypothesis "There is no significant difference in mean scores of the opinions on the impact of CBCS between faculty members of the Arts and Science departments" is accepted. therefore, it may be concluded that there is no significant difference among the opinions of faculty members of the Arts and Science Stream regarding CBCS implementation. This finding is supported by the findings of Sanghi (2010), Chaudhary (2012), Naidu & Sreedevi (2016), Kaur & Sharma (2016), Aithal & Suresh Kumar (2016), Chahal D. & Muneeb Manan (2017), Shahid Mazid Bhat (2017) used CBCS in their research and found that this change brought by CBCS has proved to be a milestone for the Indian education system.

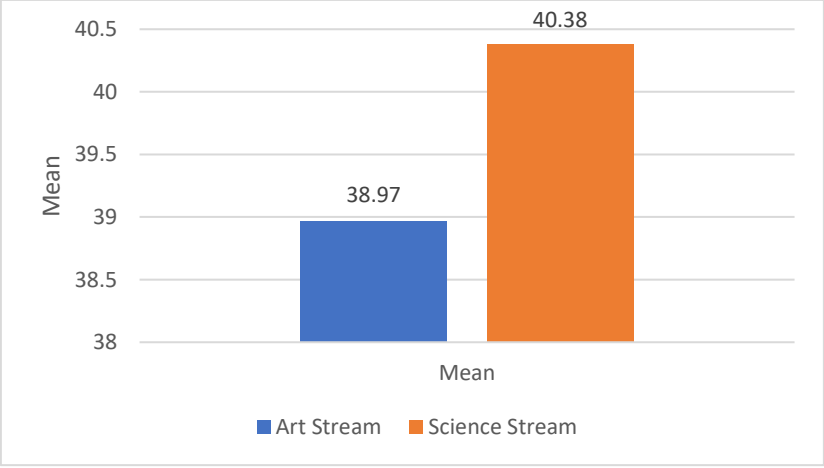

Fig. 4 Graphical representation of the mean scores of faculty members of both streams

Discussion

The curriculum of educational programs offers the option to select elective subjects based on students' interests and preferences in addition to core subjects, but students often lack expertise in this process (Reddy & Sharma, 2019). Therefore, proper guidance and counselling should

be provided to students before they choose their electives. Furthermore, training programs should be organised regularly to help teachers develop a strong understanding of the elective subjects included in the curriculum (Gupta, S., et al., 2025). The presence of such teaching-training programs makes the implementation of the Choice-Based Credit System (CBCS) more effective. Students may also face challenges due to a lack of resources in various educational institutions; thus, providing adequate resources in line with new norms can enhance the overall effectiveness of educational programs (Kumar & Gupta, 2021). Additionally, an overemphasis on elective courses may prevent students from achieving sufficient proficiency in core subjects. Therefore, greater emphasis should be placed on mastery of core subjects to ensure that their academic rigour is not compromised by elective choices (Gupta et al., 2024).

The absence of a significant difference in opinions between Arts and Science faculty members suggests that the implementation of CBCS is perceived similarly across diverse academic streams. This indicates that faculty, regardless of discipline, recognise common benefits such as increased flexibility, student autonomy, and alignment with global standards, as well as shared challenges related to resource constraints and adapting to new pedagogical practices. This finding implies a broadly unified perspective on CBCS, highlighting the need for institution-wide support measures rather than stream-specific interventions to strengthen its effectiveness. Moreover, qualitative data gathered through semi-structured interviews revealed that while faculty members appreciated the flexibility and interdisciplinary opportunities provided by CBCS, they also pointed out challenges such as a lack of training, inadequate resources, and difficulties in adapting to new assessment methods. These insights complement the quantitative findings and provide a deeper understanding of the practical barriers to effective CBCS implementation.

Conclusion

In this research paper, a comparative study is done among the faculty members of the Arts and Science Stream of CSJM University regarding the impact of the implementation of CBCS. The results obtained from this study show that there is no significant difference in opinion on CBCS among the faculty members of the Arts and Science Stream. CBCS has the potential to have a revolutionary effect on higher education in India by encouraging student-centric learning, improving relevance and quality, and encouraging creativity and teamwork in the academic environment. CBCS holds that in today's knowledge-based society, disciplines and subjects cannot be compartmentalised, and that students will gain the most from such a system (Gupta, S., & Singh, V., 2024). It will enable the student to stay up to date on the latest advancements in the subject, learn about it, and use what they have learned in their field (Patel, N., & Singh,

R., 2020). Additionally, it encourages students to explore different interests and, if feasible, pursue innovation in their sector. Graduate and post-graduate students in Western nations frequently study interdisciplinary studies, which aids 21 students in providing a deeper understanding of the applicability of one subject to other related fields (Smith, J., & Taylor, R., 2020). Universities are free to create examination and assessment procedures that best suit their curricula, syllabi, and teaching-learning strategies; nonetheless, a logical framework must be developed (Biggs, J., & Tang, C., 2011). Graduate and post-graduate students in Western nations frequently study interdisciplinary studies, which aids students in providing a deeper understanding of the applicability of one subject to other related fields (Klein, J.T., 2017, and OECD, 2019). Now with the help of the new education system, i.e., Choice Based Credit System, Indian Universities are also free to create examination and assessment procedures that best suit their curricula, syllabi, and teaching-learning strategies; nonetheless, a logical framework must be developed. It also aids in creating a positive learning environment because everyone is expected to participate in the learning process according to their aptitude and competency, cooperation and a positive work attitude are guaranteed and fostered among students, work commitment habits are reinforced, and the internationally recognized educational system is preserved because it allows for the simultaneous offering of multiple courses.

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