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# Analysis of Accreditation of Indian Universities Located in the Western Part of India Considering NAAC Quality Indicators

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## Abstract

With the introduction of the National Education Policy 2020, the focus of higher education in India is shifting towards the holistic development of students through multidisciplinary education. It also envisages higher education institutions with motivated, skilled, and focused faculty members who are capable of providing quality teaching-learning process as well as engaged in visible and relevant research. Also, universities are mainly meant to cater to large masses, conduct research that is of societal importance, and reach out to society through extension activities. Looking into these aspects, the quality assessment of the universities is of utmost importance for their complete development. The overall progress of universities will depend upon the formulation and implementation of policies leading to a better teaching-learning environment, infrastructure for teaching and research, mobilization of funds, excellence in research, and extension activities. Uniformity in the evaluation of the quality of the universities requires taking all these factors into consideration. National Assessment and Accreditation Council, which evaluates the quality of higher education institutions in India, grades the universities based broadly on these criteria. In this paper, we attempt to analyze the accreditation of universities based on their grades obtained in various criteria set by NAAC. We have also tried to find the correlation of some of the criteria on other quality indicators.

**Keywords:** NAAC, New Education Policy 2020, Indian Universities, Accreditation

## Introduction

The National Education Policy 2020 (NEP 2020) was introduced in August 2020. The universities and other Higher Education Institutions (HEI) have adopted it and presently are in the process of implementing it. The most important aspect of NEP 2020 with regard to higher education is to raise the gross enrolment ratio above 50% and the introduction of world-class Multidisciplinary Education and Research Universities (MERUs) providing holistic education to a large number of students. NEP 2020 envisages a university as "a multidisciplinary institution offering undergraduate and graduate programmes, engaged in high quality teaching, research, and community engagement through extension activities". The universities will be either research-intensive or teaching-intensive, based on their emphasis on teaching and research. Developing world-class higher education institutions, especially universities, require curriculum restructuring, revamping of pedagogy, restructuring of the student assessment and evaluation system, better student support, conduction of visible and relevant research useful for the society, and understanding of the needs of the society and the industries. This requires dedicated, focused, and passionate faculty members, who are well adept at teaching, and can conduct quality peer-reviewed research. Adequate infrastructure at the higher education institution for teaching-learning, research, and extension is also necessary. These changes can happen only if the institution has a definitive development plan

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including formulation and implementation of policies and practices leading to a better teaching-learning environment, infrastructure for teaching and research, mobilization of funds, research excellence, and extension activities.

The envisioned multidisciplinary universities need to be accredited and regulated based on their performance to ensure their quality and to formulate plans for their further overall development. Presently, National Assessment and Accreditation Council (NAAC), provides quality assurance for higher education institutions in India. The Revised Accreditation Framework (RAF), assesses the performance of universities based on seven criteria having 115 quality indicators (NAAC, 2022). NAAC uses these quality indicators to evaluate the university on various developmental aspects and accredits the universities based on the obtained grade. The cumulative grade obtained as well as the grades obtained in various assessment criteria is an indicator of the quality of the universities. An analysis of the grades of the universities will provide an insight into their relative quality and will serve as a tool for the determination of focus areas for quality improvement. In this paper, we have tried to use basic statistical analysis to investigate the quality of universities based on their performance in different evaluation criteria set by NAAC. A correlation study between different evaluation criteria is also presented.

## 2. NAAC Assessment Criteria and Accreditation Data

As mentioned in the previous section, presently NAAC assesses universities based on 7 criteria across various core areas, functions, and activities of a university. In the pre-revised accreditation framework, peer teams visiting the university assigned grades to various assessment criteria.

**Table 1: NAAC assessment criteria for universities**

| Criteria | Criteria | Number of Quantitative assessment metrics and [% weightage] | Number of Qualitative assessment metrics and [% weightage] | Weightage in CGPA (%) |
|---|---|---|---|---|
| 1 | Curricular Aspects | 09 [83.3] | 02 [16.7] | 15 |
| 2 | Teaching, Learning, and Evaluation | 13 [74.0] | 06 [26.0] | 20 |
| 3 | Research, Innovations, and Extension | 25 [90.8] | 04 [09.2] | 25 |
| 4 | Infrastructure and Learning Resources | 09 [61.0] | 06 [39.0] | 10 |
| 5 | Student Support andProgression | 10 [93.0] | 02 [07.0] | 10 |
| 6 | Governance, Leadership, and Management | 07 [55.0] | 09 [45.0] | 10 |
| 7 | Institutional Values and Best Practices | 06 [27.0] | 07 [73.0] | 10 |
| | Total | 79 [73.6] | 36 [26.4] | 100 |

To make the assessment and accreditation more objective, in the revised accreditation framework, the assessment process is split into quantitative and qualitative aspects with the university supplying the quantitative data to the NAAC data submission portal. The quantitative data amounts to almost 74% of the evaluation process. The data submitted by the university is verified and validated by an external agency and the grades for each quality indicator (metric) are assigned. For the rest of the 26% evaluation, a peer team visits the university applying for accreditation/re-accreditation. After the quantitative and qualitative evaluations are over, each assessment criterion is given a Grade Point Average (GPA) and the Cumulative Grade Point Average (CGPA) is computed from the

weighted GPA. The university is then accredited and assigned an appropriate grade based on CGPA. Table 1 shows the various NAAC assessment criteria and their respective weights.

Assessment metrics for each criterion are graded and a GPA is assigned, and this GPA along with their weights shown in the last column of Table 1 is then used to compute the CGPA and grade of the university. Table 2 shows the relation between CGPA, Institutional grade and accreditation status [2]. The assigned grade is valid for a period of five years (NAAC, 2022).

**Table 2: NAAC assigned grades and accreditation status**

| CGPA | Grade | Accreditation Status |
|---|---|---|
| 3.51 to 4.00 | A++ | Accredited |
| 3.26 to 3.50 | A+ | Accredited |
| 3.01 to 3.25 | A | Accredited |
| 2.76 to 3.00 | B++ | Accredited |
| 2.51 to 2.75 | B+ | Accredited |
| 2.01 to 2.50 | B | Accredited |
| 1.51 to 2.00 | C | Accredited |
| Below 1.50 | D | Not Accredited |

CGPA as well as GPA for each criterion can be used for quality analysis of the universities. The GPA and CGPA data of the accredited universities are openly accessible on the NAAC website and we have used NAAC assessment information from 63 universities in the western part of India for the analysis. This includes Central, State, and Private universities as well as universities accredited in the pre-revised and revised accreditation frameworks. Table 3 provides the details of the number of universities used in the analysis presented in this study. The reader may please note that the accreditation/re-accreditation cycle (the number of times the university has been re-accredited) is not given in the table

**Table 3: Details about the number of universities used in the analysis**

| Total | Type of university | | | Accreditation Framework | |
|---|---|---|---|---|---|
| | Central | State | Private | Pre-revised (Pre-RAF) | Revised (RAF) |
| 63 | 11 | 22 | 30 | 44 | 19 |

The descriptive statistics (Goos and Meitrup, 2015) of the GPA and CGPA of the universities are indicative of the quality of the higher education institution. We have analysed the data considering all the universities together as well as based on the type of the university and accreditation framework (revised and pre-revised). Correlation analysis [4] between different assessment criteria is useful in finding the effect of a particular criterion on others. We have specifically focused on the effect of Governance, Leadership, and Management (Criterion 6 in Table 1) on others.

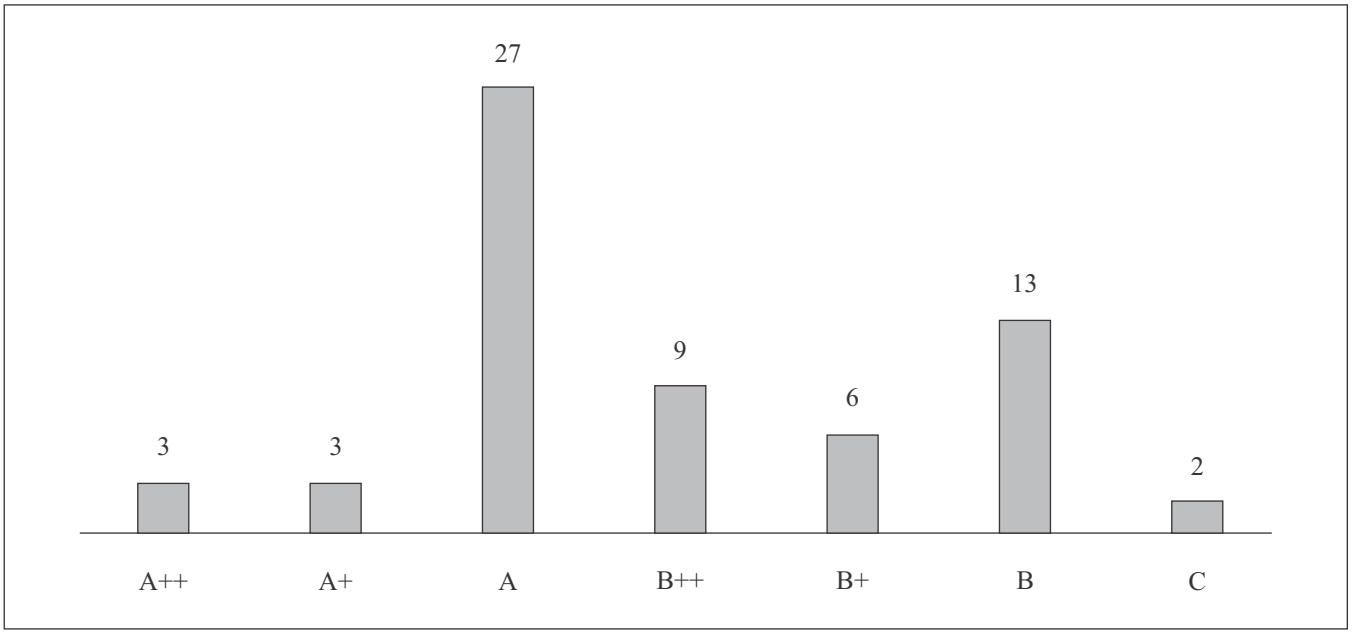
## Results and Discussions

As discussed in the previous section descriptive statistics are used to analyse the quality of the accredited universities.

*3.1 Grade and CGPA of accredited universities*

All the analysed universities are accredited under the CGPA system, albeit in pre-revised accreditation framework or in revised accreditation framework. Fig. 1 shows the distribution of the grades of the accredited universities. It should be noted that out of the 64 universities, 19 universities were accredited under the RAF and 44 were accredited under Pre-RAF.

**Fig. 1: Grade distribution of the universities used in the present analysis**




It can be seen from Fig. 1 that about 52% of the universities are accredited with 'A' and above grade. Table 4 shows the grade distribution for different types of universities.

**Table 4: Grade distribution – University type wise**

| University Type | Grade | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | A++ | A+ | A | B++ | B+ | B | C | |
| Central | 02 | 01 | 06 | 02 | - | - | - | 11 |
| State | - | - | 15 | 01 | 01 | 03 | 02 | 22 |
| Private | 01 | 02 | 06 | 06 | 05 | 10 | - | 30 |

More than 60% of the central and state universities are accredited with 'A' and above grades, while 30% of private universities are accredited with such grades. The CGPA obtained by the universities ranged between 1.65 and 3.77. Table 5 shows the CGPA of accredited universities (combining RAF and Pre-RAF data).

**Table 5: CGPA of accredited universities**

| Minimum | Maximum | Mean | SD | Median | Range |
|---|---|---|---|---|---|
| 1.65 | 3.77 | 2.91 | 0.47 | 3.01 | 2.12 |

The sample mean is a more suitable parameter to represent the typical value of the distribution in the case, when it is symmetric. However, it is affected by extreme values, and in the case of skewed distributions, as is the case here, the sample median is more suitable to capture the typical value of the distribution. The median of the CGPA (Table 5) obtained by the universities is just above 3.00, indicating an average grade of 'A'. However, there is a stark contrast in the mean and median values of the CGPA obtained in the revised accreditation framework and pre-revised accreditation framework (Table 6). In the revised accreditation framework, the median CGPA decreased by more than 10% compared to pre-revised framework. This might be due to the introduction of the quantitative evaluation scheme in the revised framework, leading to a more objective and stringent assessment of the submitted data. However, it should be noted that, for the revised accreditation framework, we have used only information about 19 universities.

**Table 6: CGPA of universities in revised and pre-revised accreditation frameworks**

| Accreditation Framework | Minimum | Maximum | Mean | SD | Median | Range |
|---|---|---|---|---|---|---|
| Pre-revised | 2.11 | 3.77 | 3.03 | 0.35 | 3.04 | 1.66 |
| Revised | 1.65 | 3.63 | 2.63 | 0.60 | 2.73 | 1.98 |

CGPA analysis of different types of universities is detailed in Table 7. As per the median CGPA, central universities perform the best, followed by state and private universities.

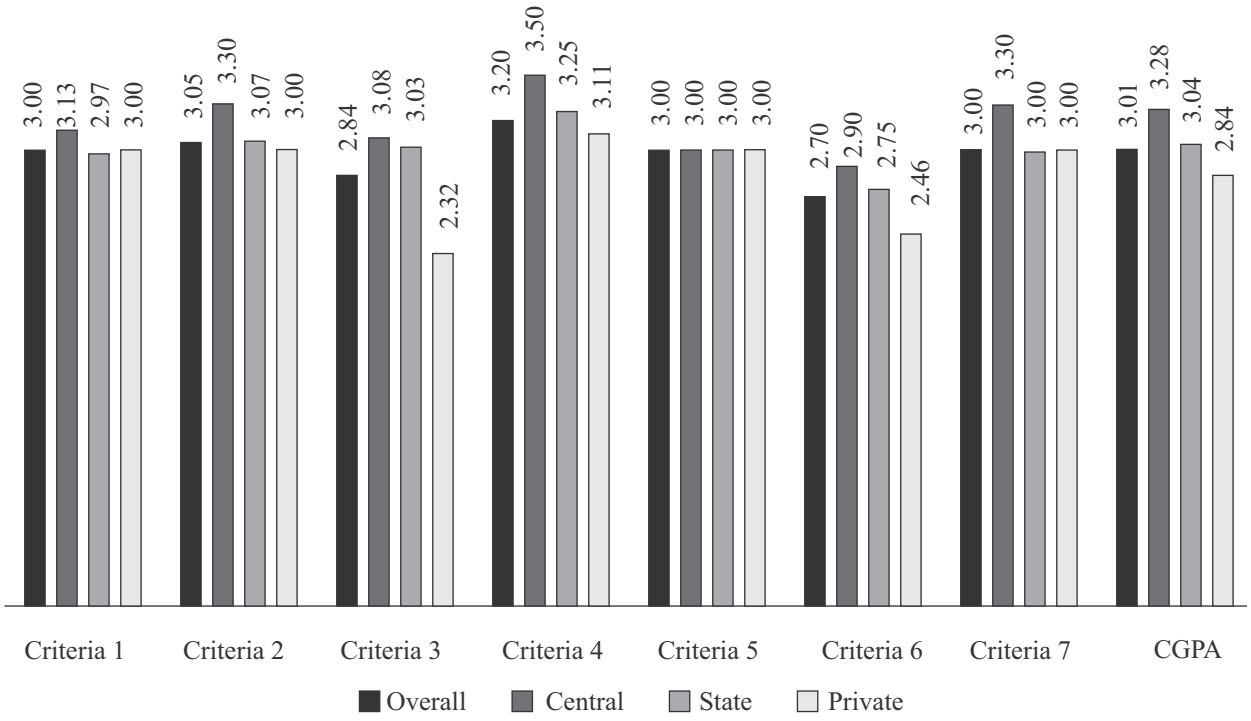
**Table 7: CGPA – University type wise**

| Type of University | Minimum | Maximum | Mean | SD | Median | Range |
|---|---|---|---|---|---|---|
| Central | 2.76 | 3.77 | 3.25 | 0.34 | 3.28 | 1.01 |
| State | 1.65 | 3.28 | 2.85 | 0.51 | 3.04 | 1.63 |
| Private | 2.09 | 3.63 | 2.82 | 0.44 | 2.84 | 1.54 |

*3.2 Criteria wise performance*

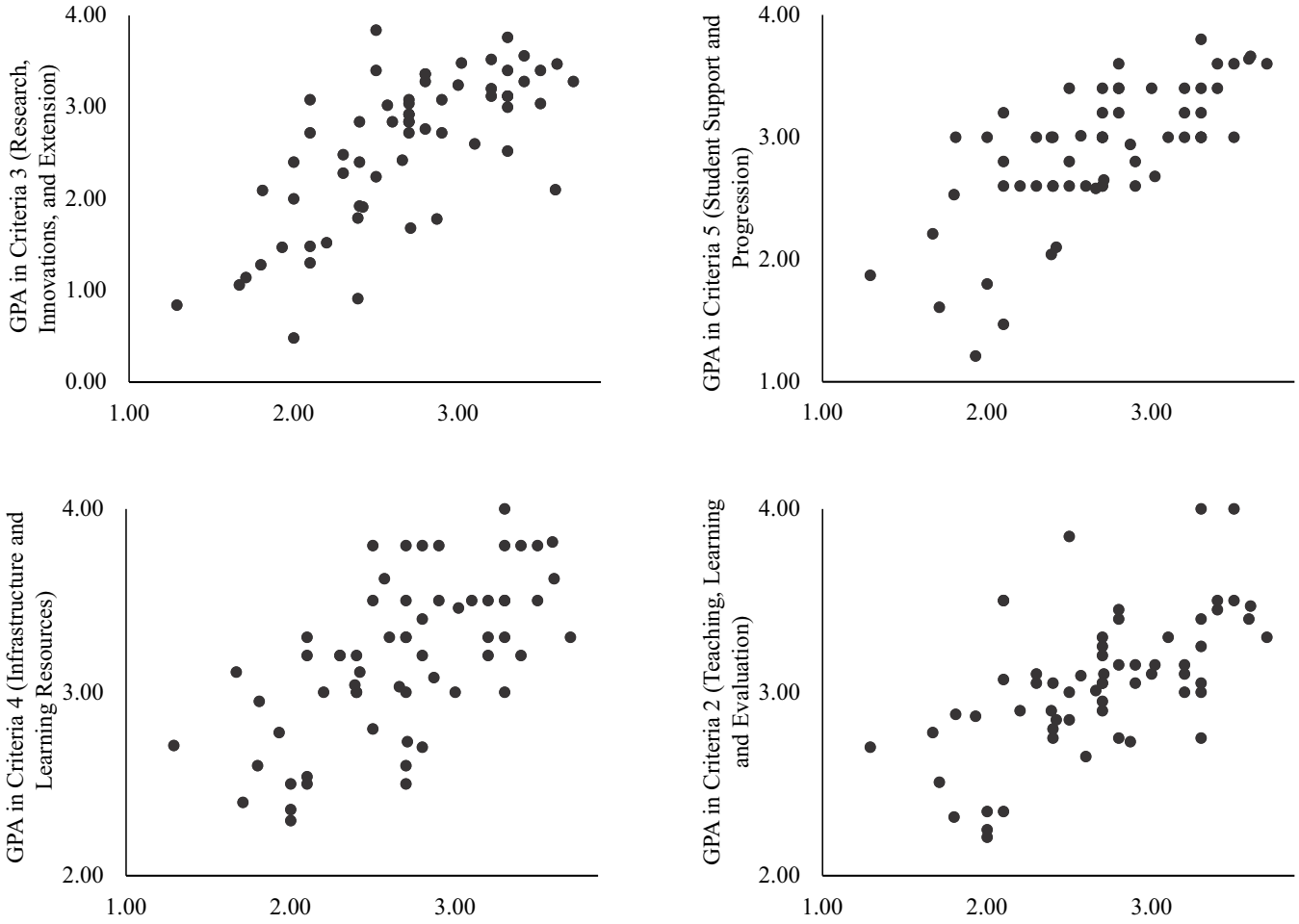
The evaluated universities are awarded Grade Point Averages (GPA) for the seven assessment criteria (Table 1). Analysis of the performance in individual criteria can be used for gap analysis and formulation of policies for remedial action. Table 8 tabulates the median values of the criteria-wise GPA as per university type.

**Fig. 2: Assessment criteria wise GPA distribution (According to the type of the university)**




From Fig. 2 while considering all the universities together, it can be seen that they have to identify and plugs gaps in the area of Governance, Leadership, and Management (Criteria 6, Table 1), which has the lowest GPA among all the criteria. This is true while considering different types of universities also. This might be due to less autonomy and less decentralization. This could be improved by identifying areas requiring immediate policy changes like by providing better opportunities to teachers and non-teaching staff and the inclusion of staff in decisions management related issues. State universities also should focus on curricular aspects (Criteria 1, Table 1), which requires the introduction of more value-added courses, courses with an emphasis on employability, and new programmes in emerging and disruptive areas. Fig. 2 also reveals that the research output, focus, and orientation (Criteria 3) of the universities must be improved if, India has to develop world-class universities as envisioned in NEP 2020. This requires a concentrated effort from the university administration needing policy changes that will reward high-quality research through its incentivization. Private universities lag way behind central and state universities in research and urgently must initiate policies that will improve the research and extension activities. A correlation analysis between different criteria will bring out the effect of different assessment criteria on others. The effect of Governance, Leadership, and Management (Criteria 6, Table 1), on other criteria of much interest. Fig. 3 shows the correlation between Criteria 6 and other criteria (considering all types of universities together). We have shown the relation between variables that show a moderate to a high degree of correlation (correlation value above 0.5 with $p<0.01$) (Schober et al., 2018)

**Fig. 3: Variation in GPA obtained in various assessment criteria with the GPA obtained in the assessment Criteria 6 (Governance, Leadership, and Management)**




The dependence of Research Innovation and Extension on Governance, Leadership, and Management (Criteria 6) is quite evident in Fig. 3, where a strong positive correlation between the two exists. Also, a moderate to strong positive correlation exists between Criteria 6 and "Student Support and Progression" (Criteria 5). A similar positive correlation can also be evidenced between Criteria 6 and "Infrastructure and Learning Resources" (Criteria 4) and "Teaching, Learning, and Evaluation" (Criteria 2). These positive correlations basically indicate that good leadership and governance with appropriate policy decisions lead to holistic development of the universities. As can be seen from Fig. 4, a strong positive correlation exists between "Research, Innovation and Extension" (Criteria 3) and "Teaching, Learning, and Evaluation" (Criteria 2) and between Criteria 6 and "Student Support and Progression". Similarly, Fig. 5 indicates that "Teaching, Learning, and Evaluation" (Criteria 2) strongly depend upon "Infrastructure and Learning Resources" (Criteria 4). "Student Support and Progression" (Criteria 5) also have a moderate positive correlation with Criteria 4.

**Fig. 4: Variation in GPA obtained in various assessment criteria with the GPA obtained in the assessment Criteria 3 (Research Innovation and Extension)**

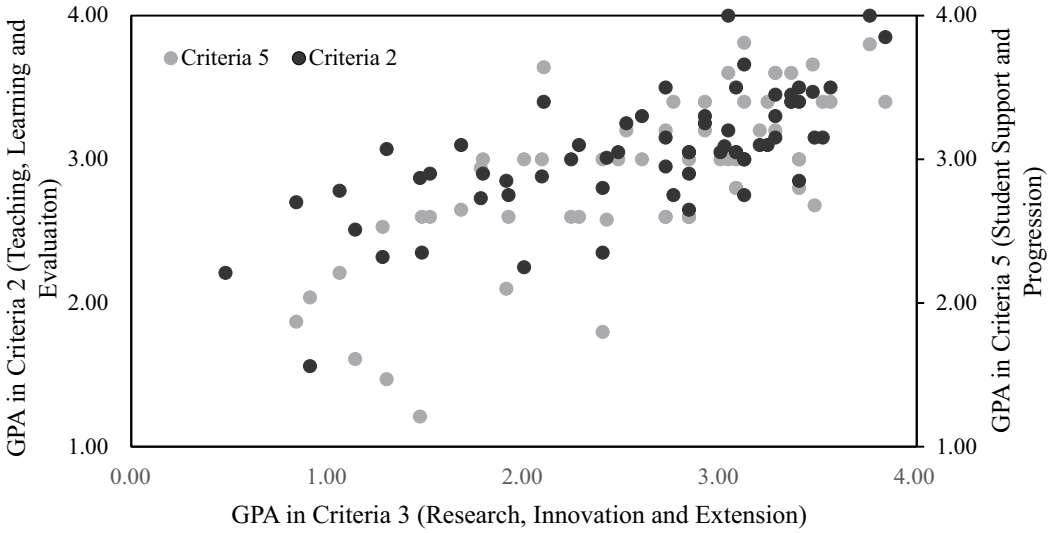
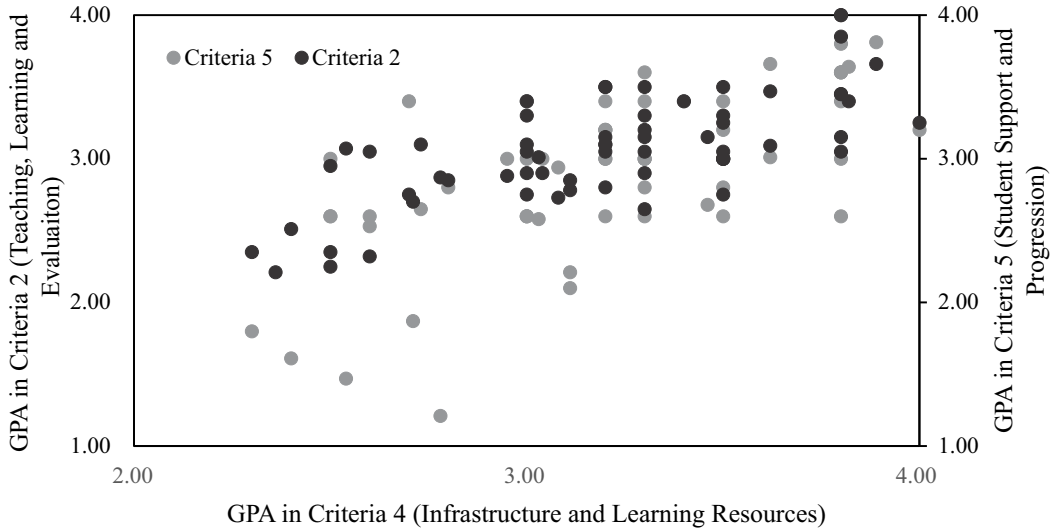



**Fig. 5: Variation in GPA obtained in various assessment criteria with the GPA obtained in the assessment Criteria 4 (Infrastructure and Learning Resources)**




## Conclusion

As India is gearing up to transform its higher education institutions, especially universities, into world-class institutions, the role of assessment and accreditation is immense, from the point of view of self-assessment, gap analysis, policy formulation, and holistic development. National Assessment and Accreditation Council, assess the quality of higher education institutions in India based on criteria keeping in mind this holistic development. In the study presented, we have tried to analyse the quality of universities, situated in the western part of India, based on their performance in different NAAC evaluation criteria. The CGPA analysis provides an insight into the performance of the universities based on their type. It clearly indicates that there is scope for improvement in the governance and management of the universities, especially in private universities. Also, research, innovation, and extension are found to be lacking. This could be improved by encouraging research in cutting-edge and emerging areas through financial assistance and other incentivization (duty leaves for

collaborations, cash awards for patents and high-impact research papers, funds for research equipment, etc.). This will encourage staff and students to carry out socially relevant, visible, high-impact research. A moderate to strong positive correlation was found to be existing between governance, leadership and management, and other assessment criteria including research and innovation, student support and progression, teaching-learning and evaluation, and infrastructure and learning resources, indicating the effectiveness of purposeful management on the development of the university, irrespective of their type. Another interesting factor is the positive effect of high-quality research on student progression and teaching-learning and evaluation. Not surprisingly, a positive correlation was also found between infrastructure and learning resources and the teaching-learning process, student progression, and research output. In this study, we have used data from the universities located in the western part of India. Soon, we plan to extend this analysis by including accreditation data from universities and other higher education institutions across India and also by including grades obtained in each key indicator, which will provide an in-depth understanding of the relations between various NAAC quality indicators. We also plan to conduct a gap analysis of each accredited university using the quality indicator for gap analysis. This will be helpful in the formulation of the roadmap of the institution.

**References**

Goos, P.; and Meintrup, D. (2015). *Statistics with JMP: Graphs, Descriptive Statistics and Probability*. Wiley.

NAAC (2022). Institutional Accreditation- Revised Manual for Universities, NAAC, Bangalore. http://naac.gov.in/images/docs/Manuals/manuals_new/University-Manual-4-1-2022.pdf

Schober, P.; Boer, C.; and Schwarte, L.A. (2018). Correlation Coefficients: Appropriate Use and Interpretation. *Anesthesia & Analgesia*, 126, 1763-1768.