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Quality Parameters for Higher Education Institutions in India: A Literature Review

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***Abstract*- This study aims to study quality parameters for Higher Education Institutions in India. The study has been carried out in two segments. First, the conceptual models on quality in higher education from academic research have been analyzed. Then, the institutional reports and policy frameworks for quality in higher education institutions like NAAC's Quality Indicator Framework (2020), NIRF ranking framework (2015), and RUSA, have also been analyzed. Quality parameters from academic research were mapped with parameters from institutional reports or policy frameworks. The validity of these quality parameters is well established by academic research, institutional reports, and policy frameworks. This study concludes that the quality parameters can be broadly categorized under five categories: Curriculum, Teaching Learning, Career Prospects, Resources, Research Environment, and Others.**

***Keywords*:-** *Quality Parameters, Quality in Higher Education, Higher Education Institutions, NAAC, NIRF*

I. INTRODUCTION

For HEIs, the concept of quality has been elucidated by numerous researchers. Harvey and Green (1992) refer to quality as a relative concept; relative to (a) the user of HEI and (b) benchmark. Quality can also be about products or processes (Harvey and Green, 1992) or relative to the purpose (Gibbs, 2010). Quality has also been explained with a five-dimensional model "as exceptional, as perfection, as a fitness of purpose, as value for money, and as transformative" (Harvey and Green, 1992). In literature, "Quality" has been unanimously stated as being transformative (Biggs, 1993; Gibbs, 2010; Harvey and Knight, 1996). Transformation implies change, and with respect to teaching, the transformation in the student can be psychological, behavioral, attitudinal, cognitive, skill focused and is generally multifaceted. Quoting Gibbs (2010):

"Higher Education should be a transformative process that supports the development of graduates who can make a meaningful contribution to wider society, local communities and to the economy"

National Assessment and Accreditation Council (NAAC) is "an accreditation body established in 1994 as an autonomous institution of the University Grants Commission" (NAAC, 2020). It focuses on periodic assessment of quality and accreditation of HEIs as well as specific academic programs. As a strategic initiative, the NIRF was formed to rank HEIs in India (Arya and Dadwal, 2022). This framework considers five parameters covering "Teaching, Learning, and Resources; Research Productivity, Impact, and IPR; Graduation Outcome; Outreach and Inclusivity and Perception" (NIRF, 2015)

University grant commission (UGC) has served significantly in disbursing grants to the universities and colleges. But UGC provides financial assistance to only those HEIs which are recognized under section 12B and 2(f) of UGC Act, 1956. As of 31st March 2011, there were 623 universities and 33,093 colleges in India. 171 Universities were not covered under section 12B of the UGC Act and only 6,417 were eligible for financial assistance under section 12B and 2f of the UGC Act. As per XIIth Five year plan the central funding was poorly coordinated leading to poor quality of outcomes. Thus, there was a need for a scheme to provide strategic funding to state higher education institutions to boost the enrollments as well as quality in higher education.

Rashtriya Uchchatar Shiksha Abhiyan (RUSA) is a Centrally Sponsored Scheme (CSS) launched by the Ministry of Education, Government of India in 2013 as a part of 12th Five- Year Plan. RUSA aims to improve the quality of state universities and colleges by providing strategic funding to eligible state HEIs. The central funding is norm-based and future grants are outcome dependent. The funding is based on critical appraisal of State Higher Education Plans focusing on issues on access, equity, and excellence in higher education.

II. LITERATURE REVIEW

A rich body of literature and conceptual models on quality in higher education institutions exist. The literature has been studied in two segments. First, the researcher has explored the conceptual models on quality in higher education from academic research. Then, the researcher has studied the institutional reports and policy frameworks for quality in higher education institutions.

The reputation of the HEI based on world rankings and national rankings act as a valid indicator of the educational quality of an HEI (Harvey and Green, 1992; Harvey and Knight, 1996; Astin, 1990; Dill et al., 1996; Beaumont, 2012; Ntabathia, 2013). In addition to academic staff, students need to have frequent interaction with non-academic staff for day to day activities. Thus, adequacy, knowledge and competence of academic staff (Beaumont, 2012; Ntabathia, 2013) and their ability to facilitate accurate and prompt services (Noaman et al., 2013;Beaumont, 2012; Ntabathia, 2013) are also considered as a factor in assessing the quality of higher education institution. Every student should be socially as well as academically well integrated with the institution to increase the retention percentage of students (Gibbs, 2010). Retention as well as employability of students in terms of educational gains, qualitative and quantitative skills learned and students' academic and extracurricular performances also determine the educational quality of a higher education institution (Harvey and Green, 1992; Harvey and Knight, 1996; Gibbs, 2010; Yorke, 2001).

Ensuring the relevance of the designed curriculum to the present as well as future market needs enhances the employability of students thereby enhancing the quality of higher education institutions (Biggs, 1993; Noaman et al., 2013; Hasan et al., 2008; Owlia and Aspinwal, 1996; Beaumont, 2012). Level of student effort and engagement (Gibbs, 2010; Pascarella and Terenzini, 2005; Chickering and Gamson, 1987), formative assessment, and timely feedback to students (Gibbs, 2010; Gibbs and Dunbar-Goddet, 2007; Chickering and Gamson, 1987; Yorke, 2001) are closely linked to higher educational gains. K Venkasubramanium (2004) emphasizes "reducing the gap between academics and industry by following initiatives by industry: identify HR skills required in future; provide support for student training; hold periodic seminars in collaboration with universities; share equipment and facilities with universities".

Adequacy of the library, technology-aided learning mechanisms, and other infrastructure facilities available with the HEI is vital for quality of academic programs offered (Palli and Mamilla, 2012; Green, 2014; Harvey and Green, 1992; Harvey and Knight, 1996; Astin, 1990; Massy, 1996; Noaman et al., 2013; Owlia and Aspinwal, 1996; Donlazic and Fazlic, 2015). Library, as a learning resource must have an adequate number of latest books, journals, and other learning material in accordance with the courses offered as well as extended working hours for studying to cater to student's academic needs (Green, 2014; Noaman et al., 2013; Dill and Massy, 1996).

III. RESEARCH METHODOLOGY

➢ *Objective of the Study*

- To Study Quality Parameters for Higher Education Institutions from Academic Research.
- Quality Parameters for Higher Education Institutions from Institutional Reports or Policy Frameworks in India.

➢ *Data Sources*

This is an exploratory study using secondary data on higher education from the Ministry of Education, UGC, AICTE, NAAC, etc.

IV. ANALYSIS AND DISCUSSION

➢ *Quality Parameters for Higher Education Institutions from Academic Research*

The researcher has gone through numerous models proposed on quality in higher education institutions (Owlia and Aspinwal, 1996; Noaman et al., 2013; Harvey and Green, 1992; Biggs, 1993; Gibbs, 2010; Biggs, 1993). After a critical review of academic research on quality in higher education institutions, numerous quality parameters for higher education institutions were identified by the researcher. Based on the content of these parameters, the researchers has further grouped these parameters broadly under five categories namely, Curriculum, Teaching Learning, Career Prospects, Resources, Research Environment and Other as summarized in Table 1.

As shown in Table 1, the quality parameters identified from the review of academic research are summarized into six categories namely Curriculum, Teaching Learning, Career Prospects, Resources, Administrative Services and Other(including peer quality ratings, reputation, retention, and employability of students and research environment). These quality parameters for higher education institutions are detailed below:

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Table 1 Quality Parameters for Higher Education Institutions as Identified by Review of Academic Research

Quality Parameters	Items	Academic Research Sources
Curriculum	Flexibility through multidisciplinary subjects as well as electives of students choice	Owlia and Aspinwal, 1996; Hasan, 2008; Noaman et al., 2013; Beaumont, 2012;Ntabathia, 2013
	Classes on time and as per schedule	Owlia and Aspinwal, 1996; Donlazic and Fazlic , 2015
	The curriculum in accordance with market needs	Biggs, 1993;Noaman et al., 2013; Hasan, 2008;Owlia and Aspinwal, 1996; Beaumont, 2012
	Students' feedback regarding the curriculum	Kapoor and Arya(2020), Owlia and Aspinwal, 1996; Donlazic and Fazlic , 2015;Beaumont, 2012;Ntabathia, 2013
Teaching Learning	Pupil-Teacher ratio	Gibbs, 2010; Owlia and Aspinwal, 1996; Beaumont, 2012
	Knowledge and experience of academic staff	Gibbs, 2010; Boffey, 2012; Noaman et al., 2013;Owlia and Aspinwal, 1996;Donlazic and Fazlic , 2015; Green, 2014; Beaumont, 2012;Ntabathia, 2013
	Training of academic staff	Gibbs, 2010; Harvey and Green , 1992; Harvey and Knight , 1996; Massy, 1996; Ashwin and Trigwell, 2004
	Academic staff support in solving academic and career-related queries	Pascarella et al., 2006; Donlazic and Fazlic , 2015; Green, 2014;Owlia and Aspinwal, 1996; Astin, 1993;Beaumont, 2012;Ntabathia, 2013
	Student effort and engagement	Biggs, 1993;Gibbs, 2010; Pascarella and Terenzini, 2005; Healey, 2013; Trigwell et al. , 1997
	Assessment and prompt feedback to students	Biggs , 1993;Chickering and Gamson, 1997; Pascarella and Terenzini, 2005; Gibbs, 2010; Yorke, 2001; Gibbs and Dunbar-Goddet, 2007;Beaumont, 2012;Ntabathia, 2013
	Teaching Pedagogy	Biggs, 1993; Beaumont, 2012; Gibbs, 2010
Career Prospects	Strong Industry-academia linkage	Arya et al., 2022; Zaky and Elfam, 1998; Noaman et al., 2013; Venkatasubramanium, 2004;
	Placement cell support in career counseling and campus placements.	Noaman et al., 2013; Beaumont, 2012
	Conducting Skill development / Entrepreneurship / Personality development programs, PDPs.	Noaman et al., 2013;Owlia and Aspinwal, 1996
	Conferences and Seminars	Beaumont , 2012
Resources	Funding	Kapoor and Arya(2019), Harvey and Green, 1992;Gibbs, 2010
	Infrastructure & Learning Resources	Palli and Mamilla , 2012;Green, 2014;Harvey and Green, 1992;Harvey and Knight, 1996;Astin, 1990;Massy, 1996;Noaman et al., 2013;Owlia and Aspinwal, 1996;Donlazic and Fazlic , 2015; Hasan, 2008; Beaumont, 2012;Ntabathia, 2013
Research Environment	Academic staff motivation for research	Astin, 1993; Prosser and Trigwell, 2005; Pascarella and Terenzini, 1991;Noaman et al., 2013
	Support and Guidance to academic staff in conducting research activities	Gibbs, 2010; Biggs, 1993;Noaman et al., 2013; Prosser and Trigwell, 2005; Pascarella and Terenzini, 1991
Other	Peer Quality ratings	Gibbs, 2010; Harvey and Green , 1992; Massy, 1996;
	Reputation	Harvey and Green, 1992; Harvey and Knight, 1996; Astin, 1990; Massy, 1996; Beaumont, 2012;Ntabathia, 2013
	Retention and Employability of students	Harvey and Green, 1992; Harvey and Knight, 1996;Gibbs, 2010;Yorke, 2001
	Administrative Services	Noaman et al., 2013;Beaumont, 2012;Ntabathia, 2013; Donlazic and Fazlic , 2015

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- *Curriculum*

Facilitating the flexibility of knowledge by providing interdisciplinary/ multidisciplinary options of student's choice is critical for quality in higher education institutions (Owlia and Aspinwal, 1996; Hasan, 2008; Noaman et al., 2013; Beaumont, 2012; Ntabathia, 2013). Owlia and Aspinwal (1996) and Donlazic and Fazlic (2015) have also emphasized adherence to the class schedule. Since students are the primary customer of higher education, periodic feedback from students regarding curriculum and teaching staff can significantly help in identifying the weaknesses to boost the learning effectively (Donlazic and Fazlic, 2015; Owlia and Aspinwal, 1996; Beaumont, 2012;Ntabathia, 2013).

- *Teaching Learning*

Knowledge and competence of academic staff and their ability to drive students in learning-focused activities serve to enhance the quality of learning (Gibbs, 2010; Boffey, 2012; Noaman et al., 2013; Owlia and Aspinwal, 1996; Donlazic and Fazlic, 2015; Green, 2014; Beaumont, 2012; Ntabathia, 2013). Engaging students in logical reasoning, aptitude development, innovative and higher-order thinking through debates, focused group discussion, role-plays, brainstorming sessions, and all learning-focused activities significantly catalyze the students' learning process (Gibbs, 2010; Biggs, 1993; Beaumont, 2012). Faster and quality feedback may improve student retention (Yorke, 2001) and retention to some extent improves educational gain (discussed later). Enhanced feedback also increases the chances for students to take a deeper approach to learn (Gibbs and Dunbar-Goddet, 2007) which in turn enriches the learning process.

- *Career Prospects*

Supporting students in their career progression through effective placement cells is an important factor determining the quality of HEIs (Noaman et al., 2013; Beaumont, 2012). Further, strengthening the industry-academia linkage is a strategic way to give a boost to the employability and career prospects of students (Agarwal, 2006, 2015; Zaky and EI-Faham, 1998). Zaky and EI-faham (1998) also argue that conducting internship programs and frequent industrial visits give a better understanding of the expectation of employers from future employees. In addition to this, frequently organizing conferences and seminars (Beaumont, 2012) as well as Skill development programs, Entrepreneurship development programs and Personality development programs (Noaman et al., 2013; Owlia and Aspinwal, 1996) are essential for holistic development of students.

- *Resources*

The standardized learning environment and appropriate facilities of learning and infrastructure have a significant impact on maintaining students' interest and enhancing quality learning (Harvey and William, 2010; Astin, 2002; Dill and Massy, 1996). The use of integrated information and communication technology and the internet in higher education can break the time and distance barriers, provide flexibility, and knowledge sharing anytime and anywhere(Noaman et al., 2013; Hasan, 2008). In addition to this, the inclusion of modern teaching equipment, contemporary and high-quality classrooms, and technology-enabled library enhances the learning quality (Palli and Mamilla, 2012; Green, 2014; Harvey and William, 2010).

- *Research Environment*

The focus of higher education institutions in facilitating and promoting research activities has been considered as an important parameter for assessing the quality of an HEI (Prosser and Trigwell, 2005; Pascarella and Terenzini, 1991; Noaman et al., 2013). The motivation of academic staff for researching through monetary and non-monetary rewards for excellence in teaching and research has also been considered as significant in assessing the quality of a higher education institution (Astin, 1993; Prosser and Trigwell, 2005; Pascarella and Terenzini, 1991; Noaman et al., 2013).

- *Other*

In addition to quality parameters discussed above, peer quality ratings, the reputation of the institution, research environment facilitated by the institution and retention and employability of students are also identified as indicators of quality in HEIs. A rating of HEI through quality assurance mechanisms is a good indicator of the quality of that institution (Gibbs, 2010; Harvey and Green, 1992; Massy, 1996). In India, "National Assessment and Accreditation Council (NAAC)" has been established since 1994 as an accreditation agency. NAAC periodic rating serves as an important dimension of the quality of a HEI.

John B Biggs (1989, 1993, and 1999) has proposed the 3P model for quality in HEIs- Presage, Process and Product. The presage phase is before the beginning of the teaching for the quality learning process and includes student's prior knowledge, ability, and preferred approaches to learning as well as objectives, instructional procedures, teaching ethics of the teacher. Product means learning outcomes like quantitative and qualitative skills gained, student performance, retention, and employability. The process phase includes those parameters that include teaching and learning and incorporates all learning focused activities, classroom interaction between teacher and student, extracurricular activities, pedagogy and student engagement. Using the Biggs 3P model, Graham Gibbs (2010) has elaborated on them creating numerous quality parameters from these three phases. Similar to Biggs' 3P model, 'Input-Environment-Output' model (Astin, 1977; 1993) and 'Input-Process-output' transactional model (Huitt, 2003) are models on quality in higher education institutions that consider teaching learning process as transactional with the teacher and student characteristics as input; their behavior in the classroom as part of process and output all the same as student achievement.

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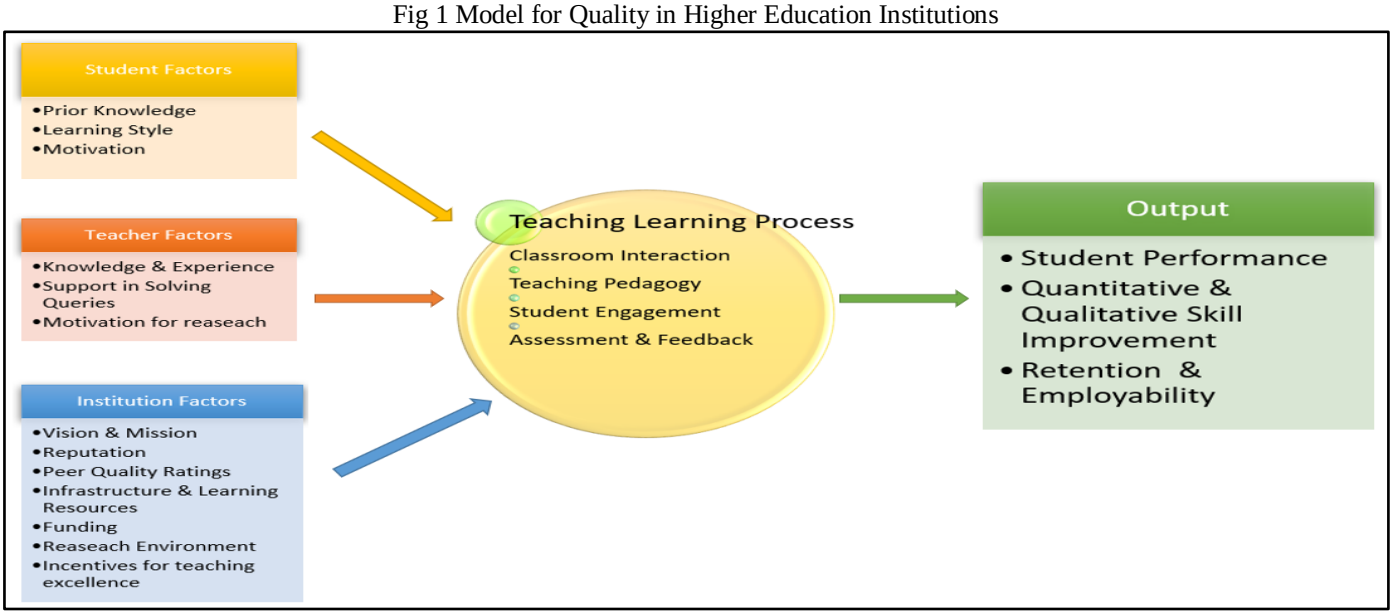
Fig 1 Model for Quality in Higher Education Institutions



Based on these studies, the researcher has presented a model of quality in higher education institutions shown in Figure 1. This model has three phases-Input-Process-Output. The input phase includes student, teacher, and institution components. Student factors comprise student's prior knowledge, motivation, and approaches to learning. Teacher-related factors comprise knowledge and experience of academic staff, pupil-teacher ratio, teacher-student interaction, academic staff support in solving student queries, the focus of academic staff towards conducting research. Institution related factors comprise the vision and mission of the HEI, its reputation through different world-class rankings and national level rankings, peer quality ratings through quality assurance mechanisms, availability of funding, infrastructure and learning resources, institutional support in promoting and guiding research activities, and focus of HEI towards incentivizing teaching excellence. The second phase is the teaching-learning process which is the core part of the model. In this phase, classroom interaction between teacher and student takes place. The teaching methods adopted by academic staff influence the quality of learning. Students' engagement in debates, focused group discussions, role-plays, and brainstorming sessions enhances educational gains. Formative assessment and timely feedback to students regarding the assessment and evaluation significantly help students in improving the learning process. The output of this teaching learning process includes retention as well as employability of students in terms of educational gains, qualitative and quantitative skills learned, students' academic and extracurricular performances also determine the educational quality of a higher education institution.

➢ *Quality Parameters for Higher Education Institutions from Institutional Reports or Policy Frameworks*

This section includes quality parameters for higher education institutions contained in NAAC's Quality Indicator Framework (2020), NIRF ranking framework (2015), and RUSA. NEP 2020 also focuses on parameters of quality in higher education institutions differently in their different formats.

➢ *NAAC Framework for Quality Assessment*

As per NAAC guidelines 2020(NAAC, 2020), there are seven dimensions for the assessment of HEIs. These are:

- "Curricular Aspects": It involves curriculum design of academic programs with the flexibility in accordance with the personal and professional needs of the students.
- "Teaching Learning and Evaluation": Engaging students in higher order thinking, experiments, internship, and use of ICT are important aspects taken into consideration. Student Satisfaction Survey (SSS) forms an integral component under this criteria, it attempts to take feedback from students regarding the actual quality of the teaching-learning process.
- "Research, Innovation and Extension": It deals with the resources facilitated by the institution to promote research and innovation.
- "Infrastructure and Learning Resources": It emphasizes availability of sufficient resources and their optimum utilization at the HEI level. It also includes the expansion of facilities to meet future development.
- "Support and Progression": It considers efforts of an institution for holistic development and gainful employment of students.
- "Governance, Leadership, and Management": It involves programs and strategies of HEI regarding recruitment, training, financial management, and other leadership responsibilities.
- "Institutional Values and Best Practices": It includes initiatives taken by the institution regarding improvements in academic, administrative, and organizational matters.

➢ *NIRF Framework for Ranking of Indian Higher Education Institutions*

The National Institutional Ranking Framework was launched on 29th September 2015 by Ministry of Human Resource Department to "rank higher education institutions across the country". This framework considers five parameters (NIRF, 2015):-

- Teaching, Learning, and Resources

It includes the pupil-teacher ratio in the institution, qualification, and experience of academic staff, learning resources, and facility for extracurricular activities.

- Research Productivity, Impact, and IPR

It includes metrics for impact factor of journals in which research works are published, citations and several patents (including designs) granted, filed, and licensed.

- Graduation Outcome

This parameter includes students' academic performance in course examinations as well as public examinations.

- Outreach and Inclusivity

Outreach includes training of academic staff, faculty participation in quality improvement, and industry-academia linkage. Inclusivity takes into consideration the inclusion of women, economically and socially disadvantaged students, differently-abled and outside the state as well as outside country students in the institution.

- Perception

This parameter includes the peer quality ratings and also includes the application to seat ratio for courses in the HEI.

➢ *Learning from RUSA*

- Focus on Research, innovation, and quality improvement: All HEIs should adopt a mandatory quality assurance framework as proposed by NAAC. There is a need to improve resource allocation to ensure quality in teaching as well as research. Criteria such as the number of research publications, impact factor of journals in which papers are published, citations, the amount of research fund attracted, etc., should be considered for faculty promotions.

Table 2 Mapping of Quality Parameters from Academic Research With Parameters from Institutional Reports or Policy Frameworks

Quality Parameters from the review of academic research	**Quality Parameters from Institutional Reports and Policy Frameworks**			
	NAAC QIF's parameters	**NIRF parameters**	**RUSA**	**National Educational Policy 2020**
Curriculum	"Curricular Aspects"			Multidisciplinary subjects of students' choice; student feedback
Teaching Learning	"Teaching, learning, and evaluation"	Teaching, learning and resources; Outreach		Knowledge and experience of academic staff; Training of academic staff
Career Prospects	"Student Support and Progression"	Graduation outcomes; Outreach		
Resources	"Infrastructure and learning resources"	Teaching, learning and resources	Performance-based strategic funding	Performance-based strategic funding
Research Environment	"Research, Innovations and Extension"	Research productivity, Impact and IPR;	Focus on Research and innovation	Incentivizing excellence in research; Promote research through establishment of National Research Foundation(NRF)
Other	"Governance, leadership and management"; "Institutional ethics and best practices"	Perception		
	"Governance, leadership and management"		Leadership at Institutional Level;	Autonomy

			Autonomy; Disclosure based Governance	
			Decision making devoid of political interference	Decision making devoid of political interference
	"Student Support and Progression"	Inclusivity	Focus on equity	Catering to student diversity

- Performance-based strategic funding: The funding should be decided based on past achievements, performance, and utilization of funds. Under RUSA, the central funding is based on State higher education plans (SHEPs), which serve as a benchmark against which the performance of a state and its HEIs is graded. The elementary tenet of RUSA is that not only the fulfillment of norms and adherence to rules is incentivized, but non-performance and non-fulfillment of norms reduce fund allocation to states and their HEIs.
- Decision-making devoid of political interference: The cornerstone of RUSA is transparency, objectivity, and professionalism.
- Disclosure based Governance: RUSA envisages full disclosure and clean governance by HEIs.
- Focus on equity: Higher education must develop equal opportunities for SC/STs and socially backward classes and promote the inclusion of women, minorities, and differently-abled persons.
- Autonomy: RUSA promotes greater autonomy to HEIs in decision-making. It advises the states to revise the acts of many State Universities in the purview of increasing autonomy. Streamlining the recruitment process strictly on merit and competency.

Table 2 shows the mapping of Quality parameters from academic research with parameters from institutional reports or policy frameworks. The validity of these quality parameters shown in Table 1 and Table 2 is well established by academic research and well as institutional reports and policy frameworks.

V. CONCLUSION AND SUGGESTIONS

The quality parameters identified by review of academic research categorized as Curriculum, Teaching Learning, Career Prospects, Resources and Other. Further, after in-depth analysis of institutional reports and policy frameworks, the quality parameters for higher education institutions from each report and policy were identified and tabulated. After studying institutional reports and policy frameworks on quality in HEIs, it is observed that quality parameters of NAAC, NIRF, or UGC are indicative. Higher Education Institutions have aligned, prioritized, and managed different interfaces affecting the translation of quality parameters of these bodies specifically for their institution in a unique way. There is a need to revise the funding pattern of the State Universities by strengthening funding under RUSA as well as other centrally sponsored schemes. National Education Policy 2020 has stated to introduce a transparent mechanism for increasing the level of public funding for State Universities and thereby creating a level playing field for them to grow and develop. There is

National Education Policy 2020 focuses on "the revision and revamping of all aspects of the education structure, including its regulation and governance" (NEP, 2020). NEP 2020 recommends transparent recruitment processes, incentivizing teaching excellence and freedom in curricular matters and methods of teaching for motivating academic staff (Arya and Dadwal, 2022).

National education policy 2020 also has focused on the inclusion of a multidisciplinary approach in learning programs. It is challenging for the State Universities as it needs more academic staff to incorporate multidisciplinary learning programs and train its faculty for the paradigm shift towards multidisciplinary approach from traditional single specialization approach. It is necessary that the State Universities invests more effort in training and development of academic staff for better curriculum design. also a need for strategic allocation of funds for the technological uplift of Higher Education Institutions. This implies that it is very critical to invest in digital infrastructure and training of Faculty and Staff to use that infrastructure for most effective dissemination of knowledge among students.

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