3 Quality of Higher Education

This chapter discusses societal perspective of higher education outcomes which are expected from the Higher Education System. In order to assess the performance of higher education institutions (HEIs) and GoUP in providing high quality Higher Education, the following audit objectives were framed.

Audit objective 2: Whether good quality higher education was ensured through effective teaching, learning and examination processes and high quality research?

Audit objective 3: Whether there was employability and progression of students to higher studies?

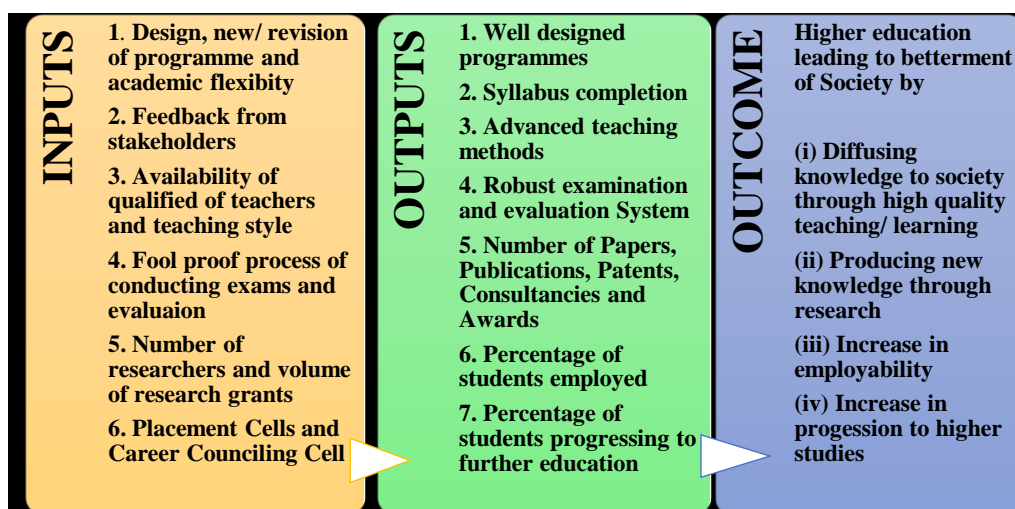**Brief Snapshot of the Chapter:**

- Twelfth FYP envisaged that the curricula be revised at least once every three years, however, in MGKV, syllabus of only 31 *per cent* courses of the test checked departments were revised during 2014-20. Only 21 *per cent* and 10 *per cent* of the programs in MGKV and UoL respectively, were focused on employability/ entrepreneurship/skill development.

- As against prescribed ratio of 20:1, the Student Teacher Ratio (STR) of government colleges in State during 2019-20 was 49:1. The STR in Arts, Commerce and Science streams in MGKV during 2019-20 was 54:1, 52:1 and 53:1 respectively. During the same period STR of UoL in Arts, Commerce and Science streams was 18:1, 39:1, 12:1 respectively. In the test checked government colleges of MGKV, STR of Arts, Commerce and Science streams was very high 151:1, 174:1, 306:1 and in the test checked colleges of UoL was 58:1, 63:1, 18:1 respectively.

- On an average only 19 *per cent* teachers attended professional development programs in MGKV and 16 *per cent* in UoL. In test checked colleges of MGKV and UoL on an average five *per cent* and 19 *per cent* teachers respectively attended training programs.

- Delay in declaration of results during 2014-20 ranged up to 273 days in MGKV (except 2018-19) and during 2017-20 in UoL ranged up to 175 days.

- Research projects in MGKV and UoL were completed with delays up to 1,463 days. Patents awarded and consultancy given was nil in test checked Universities.

- In MGKV and UoL, 781 and 2,692 students respectively were placed in the job fairs organised during 2016-20. However, data of students going for higher education either outside the University or colleges or pursuing the higher education in same University during 2014-20 was not maintained.

3.1   Introduction

The expectations of Society from Higher Education can be largely met if the system of Higher Education is of high quality in terms of its teaching-learning processes as well as its research capabilities.

Twelfth FYP (Paragraph 21.184) gave overriding emphasis to quality in higher education. It states that, given the serious quality issues in this sector, other efforts like expansion would prove counterproductive to the future of India. Regarding the importance of general higher education (meaning Arts, Science and Commerce streams), Twelfth FYP (Paragraph 21.244) states that, if properly imparted, general education could be an excellent foundation for knowledge based careers. Therefore, the focus should be on improving the quality of general education.

Various factors contribute towards improving quality of education and students progression to employment or higher studies. Related outcomes and their relationship with the contributing factors can be understood from the representation below:

INPUTS	OUTPUTS	OUTCOME
1. Design, new/ revision of programme and academic flexibity	1. Well designed programmes	Higher education leading to betterment of Society by
2. Feedback from stakeholders	2. Syllabus completion	(i) Diffusing knowledge to society through high quality teaching/ learning
3. Availability of qualified of teachers and teaching style	3. Advanced teaching methods	(ii) Producing new knowledge through research
4. Fool proof process of conducting exams and evaluaion	4. Robust examination and evaluation System	(iii) Increase in employability
5. Number of researchers and volume of research grants	5. Number of Papers, Publications, Patents, Consultancies and Awards	(iv) Increase in progession to higher studies
6. Placement Cells and Career Counciling Cell	6. Percentage of students employed	
	7. Percentage of students progressing to further education	

3.2 Imparting knowledge through effective learning processes

In this section, aspects related to curriculum have been discussed. The audit findings relating to the test checked Universities and their test checked affiliated government, non-government aided and self-financed private colleges are discussed in succeeding paragraphs.

3.2.1 Curriculum Design, Development and Implementation

Curricular aspects are the mainstay of any educational institution. They include curriculum design, development, enrichment, planning, and implementation. Adequate flexibility is also considered as a positive feature of higher education curriculum. Curriculum design and development is a complex process of developing appropriate need-based inputs in consultation with expert groups based on the feedback from stakeholders. This results in the development of relevant higher education programmes[1] with flexibility to suit the professional and personal needs of the students.

Paragraph 4.3 of Report on Inclusive and Qualitative Expansion in Higher Education issued under Twelfth FYP envisaged that the curricula be revised at least once every three years. UGC requested (January 2017) VCs of all the universities to review and revise curricula of all the academic departments in the universities at least once in every

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[1] As per NAAC manual programme is a range of learning experiences offered to students in a formal manner over a period of one-to-four years leading to certificates/ diplomas/degrees.

three years having focus on the existing and potential demand and supply of skill sets to make the university/college students employable.

A university has the mandate to visualize appropriate curricula for particular programs, revise/update them periodically and ensure that the outcomes of its programs are defined by its councils/bodies. An affiliated college, on the other hand, is essentially a teaching unit which operationalises the curriculum and depends largely on a university for legitimising its academic and administrative processes. Percentage of programs where syllabus revision was carried out during 2014-20 was evaluated in audit as Key Outcome Indicator *(Sl. No. 3 of Appendix 1.1)*.

Audit noticed that MGKV revised curriculum/syllabus of four (31 *per cent*) out of 13 UG/PG programs offered by eight[2] test checked departments and UoL revised 17 (85 *per cent*) out of 20 UG/PG programs offered by 10[3] test checked departments during 2014-20.

Scrutiny of information provided by two test checked universities with respect to curriculum design and development revealed the following:

- ***Stakeholders' feedback for revising curricular content***

This aspect was scrutinized at the level of selected test checked departments. In MGKV, students' and entrepreneur's feedback were not taken during the process of up-dating/revision of the four courses discussed above. Head of Department (HoD) of ten selected departments except Sanskrit department in UoL, stated that the feedback from students, faculty and visiting experts was obtained prior to revision in curriculum but lack of documentation by the departments limited Audit's scope of authenticating such a process.

- ***Referring to curricula of leading universities***

MGKV involved outside experts in the process of revision in curriculum. In any case they revised only a very limited number of subjects as mentioned earlier. Scrutiny of the minutes of Board of Studies (BoS) of ten departments test checked in the UoL revealed that no attempts were made at improving the curriculum by referring to curriculum of leading universities in the same field of study.

Thus, with regard to the process of curriculum design and development, though the test checked universities claimed to have followed the laid down procedures, there was insufficient evidence to conclude that crucial feedback from stakeholders, inputs from expert groups and reference to curricula of leading universities were used for curriculum improvement.

The State Government stated (July 2022) that while implementing NEP 2020, the choice-based credit system has been implemented from academic session 2021-22 after revising course/syllabus in universities and colleges in the State. In the exit conference (15 July 2022), the Government informed that NEP 2020 gave an opportunity to the department to revamp and re-envision the curriculums. UP started the task systematically in October 2020 by involving 258 educationists and organising 360 virtual meetings for preparing minimum common syllabus of 74 subject. The syllabus

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[2] Botany, Chemistry, Commerce, Economics, Geography, Psychology, Physics and Social work
[3] English and Modern European Languages, Economics, Philosophy, Ancient Indian History & Archaeology, Sanskrit, Commerce, Applied Economics, Physics, Chemistry and Botany.

was uploaded in public domain and feedback from guardians and other stakeholders were obtained.

3.2.2 Courses having focus on employability

NAAC in its accreditation and assessment process gives due weightage to employability, entrepreneurship and skill development focus in the design of curriculum by universities.

In order to assess the efforts made by MGKV and UoL towards increasing focus on employability in curriculum, average percentage of courses having focus on employability during 2014-20 was considered as Key Outcome Indicator *(Sl. No. 4 of Appendix 1.1)* for evaluation. This indicator is derived from one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

The position of the number of programs having focus on employability was as shown in **Table 3.1** below:

Table 3.1: Number and percentage of courses having focus on employability

Name of University	No. of courses in all programs						No. of courses with focus on employability etc.						Percentage						
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Average
MGKV	57	58	61	61	56	61	12	12	12	12	12	12	21	21	20	20	21	20	21
UoL[4]	20	20	20	20	20	20	2	2	2	2	2	2	10	10	10	10	10	10	10

(Source: Registrar of MGKV and UoL)

It is evident from **Table 3.1** above that during 2014-20, the average percentage of programs having focus on employability in MGKV and UoL was 21 *per cent* and 10 *per cent* respectively.

Of the test-checked two government colleges and two non-government aided colleges) in UoL, the courses[5] focused on employability, entrepreneurship and skill development (vocational courses) were offered only in a non-government aided college (Karamat Husain Muslim Girls' PG College, Lucknow) during 2019-20. In six test checked colleges of MGKV, courses focused on employability were not noticed in audit.

UoL stated (July 2022) that the University has now designed all the syllabi of the programs at UG and PG level to provide maximum emphasis on employability/ entrepreneurship/skill development.

3.2.3 Number of value-added courses and students enrolled

Value added course and activities are those which may not be directly linked with one's discipline of study but contribute to sensitizing students to cross cutting issues such as gender, environment and sustainability, human values and professional ethics. Further, as per NAAC manual, value-added courses are optional and offered outside the curriculum that add value and help the students in getting placement.

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[4] Test checked departments only.

[5] (i) A summer school program by Professors Without Borders (PROWIBO) on the topic *Developing Social Innovations Using Design Thinking* which aims to develop student's communication and presentation skills, critical thinking, and leadership skills, (ii) National Council for Promotion of Urdu Language (NCPUL) which is a one year Diploma Course, (iii) CCC, (iv) Basic Computer Literacy Programme, (v) Short Term Fashion Designing Course.

To assess the efforts made by test checked universities in offering value-added courses, the number of value-added courses imparting transferable and life skills offered during 2014-20 was used as an indicator *(Sl. No. 3 of Appendix 1.2)*. This indicator is also one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

Audit observed that the MGKV and test checked colleges of MGKV and colleges of UoL did not offer any value added courses during 2014-20. UoL while implementing NEP 2020 in 2021 incorporated some value added papers in 13 PG courses (65 *per cen*t) and elective papers in the remaining one PG course (MA Philosophy) in 10 test checked departments where it applied Choice Based Credit System (CBCS). Thus, the outcome performance of MGKV in this regard was nil and that of UoL was about 70 *per cent*.

UoL stated (July 2022) that credit and non-credit value-added programs have been included in all UG and PG program of the University under the NEP 2020.

3.2.4 Students undertaking field projects/internships

Internships are designated activities that carry some credits[6] and involve working in an organization under the guidance of an identified mentor. Field projects that students need to undertake involve conducting surveys outside the college/university premises and collection of data from designated communities or natural places.

To assess students undertaking field projects /internships in the test checked universities and colleges, the percentage of students undertaking field projects/internships during 2019-20 was used as an indicator *(Sl. No. 4 of Appendix 1.2)*. This indicator is one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

Audit observed that internship activities were undertaken in one (Master of Social Works) out of 13 courses offered by 8 test checked departments of MGKV in which all the students (54 students) participated during 2019-20. Out of ten selected departments of UoL, internships were undertaken in only three[7] out of 20 courses offered, in which 74 to 100 *per cent* students (average 84 *per cent*) participated during 2019-20. Details of the field projects and internships in MGKV and UoL are given in **Table 3.2** below:

Table 3.2: Students imparted internships during 2019-20

Name of university	Name of the program	Total students in the program	Number of students undertaking		
			Field project (*per cent*)	Internship (*per cent*)	Total (*per cent*)
MGKV	Master in Social Works	54	54 (100)	54 (100)	100
Total		**54**	**54 (100)**	**54 (100)**	**100**
UoL	M.Sc. Microbiology	35	0	26 (74)	26 (74)
	M.Sc. Pharmaceutical Chemistry	31	0	31 (100)	31 (100)
	M Sc. Environmental Science (during 2019-20 only)	21	0	16 (76)	16 (76)
Total		**87**	**0**	**73 (84)**	**73 (84)**

(Source: MGKV and UoL)

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[6] A credit system is a systematic way of describing an educational program by attaching credits to its components. UGC defines one credit as one theory period of one hour per week over a semester, one tutorial period of one hour per week over a semester and one practical period of two hour per week over a semester.

[7] M.Sc. Microbiology and M.Sc. Environmental Science (Department of Botany) and M.Sc. Pharmaceutical Chemistry (Department of Chemistry).

Internship/field project activities were not carried out in the remaining 12 (92 *per cent*) courses offered by the eight test-checked departments in MGKV. Further, internship in the remaining 17 (85 *per cent*) courses were not offered by the 10 test checked departments in UoL.

Only one[8] out of six test checked colleges of MGKV facilitated the students for undertaking internship/field projects during 2014-19 but it was not continued in 2019-20. Further, one[9] out of four test checked colleges of UoL, facilitated the students for undertaking internship/field projects in which 206 students were enrolled and 110 students (53 *per cent*) completed internship during 2017-20.

Thus, the aim of making the students capable of applying their knowledge and skills in different settings and inculcating professional dispositions and ethics through internship/field projects was only partially fulfilled in MGKV and UoL and its affiliated colleges.

UoL stated (July 2022) that the university has introduced field project/internship at UG/PG level and is mandatory for all students. However, specific reply on the audit comments was not furnished.

3.2.5 Academic flexibility

Academic flexibility denotes the choices offered to the students in the curriculum offering and the curriculum transactions. It refers to the freedom in the use of the time-frame of the programs, horizontal mobility, inter-disciplinary options and others facilitated by curricular transaction. There are number of ways through which academic flexibility can be incorporated. It includes offering new and relevant/programs, introducing CBCS and grading systems, *etc*.

In order to assess the efforts made by test checked universities in providing academic flexibility through introduction of new courses in the programs, percentage of new courses introduced out of the total number of courses across all programs offered during 2014-20 with the focus on employability was considered as the outcome indicator.

3.2.5.1 *Introduction of new courses*

In order to assess performance of new courses, percentage of new courses introduced out of the total number of courses offered during 2014-20 was taken as Key Performance Indictor *(Sl. No. 6 of Appendix 1.1)*.

Audit observed that MGKV introduced 10 new courses[10] (16 *per cent*) out of 61 programs offered by it during 2014-20. However, none of the newly introduced programs were employment oriented. UoL started one new course in 2018-19 (MSc Bio-Technology) out of 82 courses offered during 2014-20.

In test checked colleges in MGKV, Government PG College, Obra and Sri Agrasen Kanya PG College, Varanasi introduced one new PG course and two new PG courses in 2019-20 respectively. In respect of test checked colleges in UoL, the situation was

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8 Sri Agrasen Kanya PG college, Varanasi.
9 Karamat Husain Muslim Girls' PG College, Lucknow (Non-government aided college).
10 2015-16:MA/M Sc (Geography), 2016-17: M. Phil (Economics), Russian Advance Diploma and Russian Diploma, 2018-19: Certificate course in Yoga for wellness, 2019-20: MA/ M Sc (Math), MA/ M Sc (Home Science) Food, MA/ M Sc (Botany), M. Phil– Psychology, M. Phil - Political Science.

similar. One government college[11] and one non-government aided college[12] introduced two UG courses (2016-18) and one new PG courses (2019-20) respectively out of four colleges test-checked in audit. Thus, only a few courses were introduced in UoL, MGKV and their affiliated colleges during 2014-20.

UoL stated (July 2022) that University has introduced new courses like wild life programs, women study, molecular medicines, GST and many more.

3.2.5.2 *Choice Based Credit System*

As per UGC (2015), choice based credit system (CBCS) not only offers opportunities and avenues to learn core subjects but also for exploring additional avenues of learning beyond the core subjects for holistic development of an individual. CBCS allows students to choose inter-disciplinary, intra-disciplinary courses, skill oriented papers (even from other disciplines according to their learning needs, interests and aptitude) and more flexibility for students. The CBCS provides an opportunity for the students to choose courses from the prescribed core, elective/minor or skill based courses. Further, UGC has prescribed minimum course curriculum for undergraduate courses under CBCS and guidelines for implementing Semester System in HEIs. UGC instructed (April 2018) the Universities to implement CBCS and to revise the curriculum.

To assess the efforts made by test checked universities in introducing CBCS as part of the curriculum, the percentage of programs having CBCS during 2019-20 (current year) was used an indicator *(Sl. No. 5 of Appendix 1.2)*. This indicator is also one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

Audit observed that MGKV did not offer CBCS in any of the courses offered by the test checked departments. UoL implemented CBCS from 2016-17 in two courses (one PG and one UG courses) and from 2020-21, in 42 PG courses. Further, CBCS was not introduced in 10 test-checked colleges of MGKV and UoL.

The State Government stated (July 2022) that the CBCS has been implemented while implementing NEP 2020 from the academic session 2021-22.

3.3 Effective Teaching Processes

In this section, aspects that are closely connected to and affect the teaching and evaluation processes in HEIs have been discussed. Use of advanced teaching methods such as Information and Communication Technology (ICT), Learning Management Systems (LMS), e-resources etc., and faculty related aspects such as availability and quality of faculty, qualifications and continuous professional development of faculty etc., have also been covered. Further, examination systems of the HEIs have been assessed with reference to timeliness and robustness in conducting examinations and evaluation of answer scripts including revaluation.

3.3.1 Use of Information and Communication Technology in teaching

Paragraph 21.265 of Twelfth FYP focuses on use of ICT in higher education by providing smart classrooms and setting up classrooms with interactive video-conferencing facilities linking Meta universities and affiliating universities.

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[11] Mahamaya Government Degree College, Mahona, Lucknow.
[12] Navyug Kanya Mahavidyalay, Lucknow.

To evaluate the presence of advanced teaching environment in test checked universities the percentage of classrooms/seminar halls with ICT-enabled facilities such as percentage of smart class rooms and teachers using ICT methods in teaching were used as Key Outcome Indicator *(Sl. No.7 of Appendix 1.1)*. This indicator is derived from one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

The availability of ICT infrastructure in class rooms has been discussed in Paragraph 2.5.1. Further details regarding use of ICT methods in teaching during the academic year 2019-20 is as given in **Table 3.3**.

Table 3.3: Teachers using ICT methods in test-checked departments

Name of university	No. of department	Availability of IT infrastructure		No. of teachers using ICT methods	
		Total class rooms	IT enabled class Rooms (*per cent*)	Teachers	Teachers using ICT (*per cent*)
MGKV	08	28	08 (29)	43	42 (98)
UoL	10	60	10 (17)	134	85 (63)

(Source: MGKV and UoL)

Table 3.3 indicates that 42 out of 43 (98 *per cent*) teachers in eight test checked departments of MGKV were using ICT for teaching in 2019-20. In case of UoL, 85 out of 134 teachers (63 *per cent*) in ten test checked departments were using ICT methods. Further scrutiny revealed that in MGKV, 117 (48 *per cent*) out of 242 teachers in four test checked colleges[13] were using ICT in teaching during 2019-20. In the test-checked four colleges of UoL, 82 (44 *per cent*) out of 186 teachers[14] were using ICT in teaching during 2019-20.

State Government stated (July 2022) that by making agreement in 2021 with National Digital Library of India, an Uttar Pradesh Higher Education Digital Library has been established which has helped in developing collection of study material for various courses. State Government further stated that e-learning parks have been established (December 2020) in Government Colleges of rural areas to promote use of technology in higher education and reduce digital divide. Pre-loaded tablets in Government Colleges have also been made available vide Government's order dated 28 January 2021.

3.3.2 Usage of student-centric methods in teaching, coverage of course, assessment of slow learners and appointment of mentors

3.3.2.1 Use of Student-centric methods

NAAC manual (Paragraph no. 2.3.1) stipulates that student centric methods, such as experiential learning, participative learning and problem-solving methodologies should be used for enhancing learning experiences.

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[13] Sri Agrasen Kanya PG College Varanasi (49 out of 122 teachers using ICT in teaching), Jagatpur PG College Varanasi (25 out of 77 teachers using ICT in teaching), Government PG College Sonbhadra Obra (13 out of 13 teachers using ICT in teaching) and Sakaldeeha PG College (30 out of 30 teachers using ICT in teaching).

[14] Maharaja Bijli Pasi Government Degree College (25 out of 25 teachers), Mahamaya Government Degree College Mahona Lucknow (2 out of 12 teachers), Karamat Husain Muslim Girls' PG College Lucknow (20 out of 70 teachers) and Navyug Kanya Mahavidyalaya Lucknow (35 out of 79 teachers).

The test checked ten departments in UoL stated that the student centric methods like organisation of seminar/workshops, assignment of projects to students and visual presentations by teachers in classrooms, *etc*., have been used for enhancing learning experiences. Analysis of students' survey data in UoL and its test checked colleges disclosed that 45 *per cent* students stated that student centric methods were being used in the learning process 'to a great extent' in UoL. Another 31 *per cent* students stated that the use of these technologies was 'moderate'. Thus, a total of 76 *per cent* students were satisfied with the use of the student centric methods in learning process.

Sixty-one *per cent* students in the student survey in MGKV stated that the student centric method was used to a great extent and 35 *per cent* stated moderate usage of the method.

3.3.2.2   Coverage of course content

University Grants Commission (UGC) norms stipulates (February 2018) that workload to teachers should not be less than 40 hours a week with minimum 14-16 hours for direct teaching so that course contents are fully covered in the class.

As per the data made available to audit by the test checked Universities the workload of the teachers during 2014-20 was according to the prescribed norms. Analysis of students' survey data in MGKV and UoL disclosed that 89 *per cent* students in MGKV and 77 *per cent* students in UoL stated that more than 70 *per cent* of the syllabus was covered in the classes which indicated that though teachers were taking classes, the syllabus in the Universities was not fully covered.

3.3.2.3   Assessment of slow learners

In order to improve learning skills of slow learning students and to organise special classes for assisting them, University needs to identify advance and slow learning students.

Test check of records of selected departments in MGKV and UoL revealed that there was no formal system in place to identify the slow learners. As stated by the department Heads, none of the eight selected departments in MGKV had identified slow learners during 2014-18. During 2018-20 Department of Social Work identified slow learners and extra classes were also provided.

Nine out 10 test checked departments in UoL stated that slow learners were helped, but separate classes were not organised for them. The HoD of Philosophy department however, stated that the separate classes were orgnised for slow learners. The test checked departments however, did not provide related documents and data to substantiate their statements.

3.3.2.4   Mentoring to students

Audit observed that the test-checked Universities had not appointed mentor for students for academic and stress related issues. MGKV informed (July 2021) that mentor would be appointed expeditiously. UoL, however, informed (August 2021) that regular faculties provide counselling in stress related issues. In this regard, Sanskrit department in UoL further stated that a TREE (Teaching, Reaching, Emboldening and Evolving) program had been implemented in the department since 2020-21 under which each faculty was expected to mentor a set of PG students from entrance to exit.

3.4   Availability and Quality of Faculty

NEP 2020 states that the most important factor in the success of higher education institutions is the quality and engagement of its faculty. Paragraph 7.1.2 of Report on 'Inclusive and Qualitative Expansion of Higher Education' issued under Twelfth FYP stated that shortage of quality faculty coupled with lack of faculty mobility across regions is a major constraint in the development of Indian higher education system.

As per NAAC manual, aspects that determine quality of faculty/teacher include qualification of teachers, teachers' characteristics, faculty availability, professional development and recognition of teaching ability.

3.4.1   Availability of teachers

Rashtriya Uchchatar Shiksha Abhiyan (RUSA) scheme aims to ensure adequate availability of quality faculty in all higher educational institutions. Under RUSA, States were required to fill all the vacant sanctioned posts and claim funds for additional posts of faculty to enable them to achieve the student-teacher ratio of 20:1.

3.4.1.1   *Availability of teaching staff in Government Colleges*

Student Teachers Ratio[15] (STR) prescribed in RUSA guidelines is 20:1. Availability of teaching staff in the colleges of State Government and total enrolment of students during 2014-20 is given in **Chart 3.1** and **Table 3.4** below:
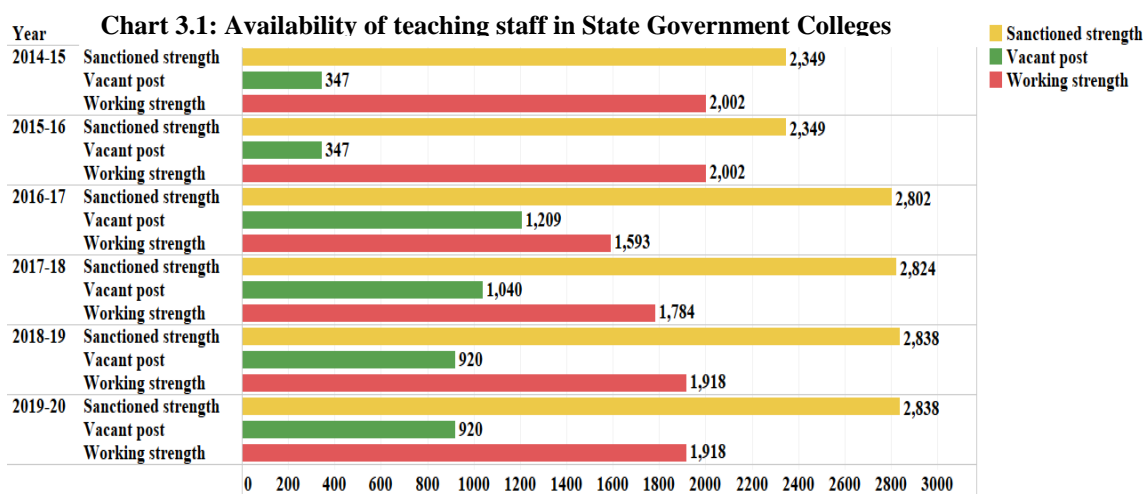

Chart 3.1: Availability of teaching staff in State Government Colleges

Table 3.4: Student Teacher Ratio of Government Colleges in the State

Year	Availability of teacher	Total enrolment	Student teacher ratio
2014-15	2002	98202	49:1
2015-16	2002	99402	50:1
2016-17	1593	96101	60:1
2017-18	1784	97337	55:1
2018-19	1918	99403	52:1
2019-20	1918	94301	49:1

(Source: Higher Education Department)

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[15] Student–teacher ratio is the number of students who enrolled in an institution divided by the number of teachers in the institution.

As is evident from **Chart 3.1** and **Table 3.4**, the posts of teachers were vacant in each year during 2014-20 and the vacancies ranged between 14.77 *per cent* in 2014-15 and 43.14 *per cent* in 2016-17. The STR ranged between 49:1 (2014-15) and 60:1 (2016-17) which was much higher than the RUSA prescribed ratio of 20:1.

In Exit conference (15 July 2022), it was stated that in future, the status of Government Colleges shall be improved.

3.4.1.2   *Availability of teaching staff in test checked Universities and Colleges*

Teaching efficiency in terms of STR as per RUSA norms (20:1), was analyzed by Audit in the test checked Universities and colleges. This was used as an outcome indicator for quality of teaching *(Sl. No. 6 of Appendix 1.2)*.

The position of total number of students enrolled in UG and PG programs in test-checked Universities and Colleges, number of teachers and the STR is given in **Table 3.5** and **Chart 3.2**.

Table 3.5: STR in test checked Universities and colleges during 2019-20

Name of university	HEIs	Total number of students			No of teachers			Students per Teacher (STR)		
		Arts	Commerce	Science	Arts	Commerce	Science	Arts	Commerce	Science
MGKV	**University**	5825	672	956	108	13	18	54	52	53
	Government College	2860	696	612	19	4	2	151	174	306
	Non-Government Aided College	10191	2635	2298	155	45	23	66	59	100
UoL	**University**	3059	1099	1545	169	28	126	18	39	12
	Government College	1324	250	180	23	4	10	58	63	18
	Non-Government Aided College	4121	892	719	83	16	35	50	56	21

(Source: MGKV and UoL)

Chart 3.2 (A): Stream wise STR in MGKV

Chart 3.2 (B): Stream wise STR in UoL
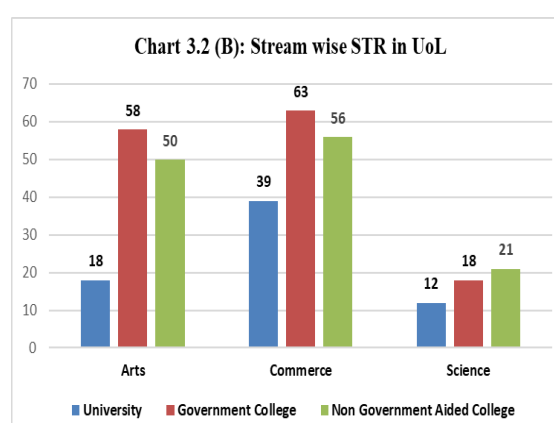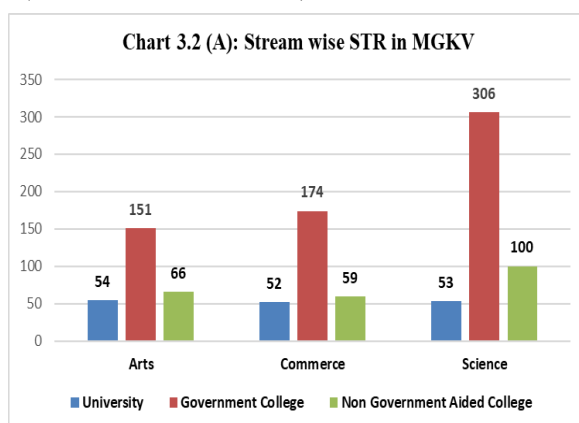
The above table showed that the STRs of MGKV in Arts, Commerce and Science streams were 54:1, 52:1 and 53:1 respectively which were much higher than the prescribed limit of 20:1. The same for UoL were 18:1, 39:1 and 12:1 respectively which was better than MGKV. The Commerce stream had a higher STR and the other two streams are well within norms.

The positions of STRs in the government colleges of MGKV were much higher (Arts: 151:1, Commerce: 174:1 and Science: 306:1). In government colleges of UoL, STR was comparatively lower (Arts: 58:1, Commerce: 63:1 and Science: 18:1) but well within prescribed limit in Science stream (**Appendix 3.1**).

In test checked non-government aided colleges of MGKV, the STR in all streams were higher than the norm (Arts: 66:1, Commerce: 59:1 and Science: 100:1). The position in non-government aided colleges of UoL was similar (Arts: 50:1, Commerce: 56:1 and Science: 21:1) as of MGKV except in Science stream which is almost as per the norms (**Appendix 3.1**).

The State Government replied (July 2020) that for maintaining STR, clear government orders were presently in force. The MGKV has started filling up of the vacancies.

3.4.1.3 Teachers engaged on contract basis

The status of permanent and contract teachers in test checked Universities during 2014-20 was as below:

Table 3.6: Permanent and contract teachers in MGKV and UoL

Year	No. of teachers in MGKV			No. of teachers in UoL		
	Total	**Permanent**	**Contractual**	**Total**	**Permanent**	**Contractual**
2014-15	241	130	111	324	310	14
2015-16	213	121	92	316	302	14
2016-17	214	118	96	338	324	14
2017-18	227	113	114	335	321	14
2018-19	226	123	103	331	317	14
2019-20	139	105	34	323	309	14
Average	**210**	**118**	**92** **(44 *per cent*)**	**328**	**314**	**14** **(4 *per cent*)**

As evident from **Table 3.6**, on an average 44 *per cent* teachers in MGKV were on contract basis during 2014-20. In case of UoL, contract teachers were only four *per cent* during the same period.

Audit noticed that in one[16] out of five test checked government colleges of MGKV and UoL, 22 *per cent* teachers in 2014-15 and 15 *per cent* teachers in 2015-16 were engaged on contractual basis. However, no contract teachers were engaged in these test checked colleges in subsequent years.

In case of each of the five test checked non-government aided colleges of MGKV and UoL, a substantial proportion of teaching staff was on contract. The percentage of contract teachers ranged from 76 to 80 *per cent* in Jagatpur PG college, Varanasi, 80 to 83 *per* cent in Sri Agrasen Kanya PG College, Varanasi, 33 to 37 per cent in Sakaldeeha PG College Chandauli affiliated to MGKV and 43 to 61 *per cent* in Karamat Husain Muslim Girls' PG College, Lucknow and 32 to 45 *per cent* in Navyug Kanya Mahavidyalaya, Lucknow affiliated to UoL.

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[16] Government PG College, Obra, Sonbhadra

Thus, teaching staff in test-checked universities and colleges included a large number of contract teachers, particularly in test checked non-government aided colleges. Appointment of teaching staff on contract basis together with high student teacher ratio (as discussed in Paragraph 3.4.1.2) might adversely affect the quality of education provided by these HEIs.

3.4.1.4 *Reservation in recruitment of teachers under EWS categories*

The Uttar Pradesh Public Services (Reservation for Economically Weaker Sections) Act, 2020, effective from 1 February 2019, provides for the reservation in public services and posts in favour of the persons belonging to the Economically Weaker Sections (EWS) of citizens in addition to the existing reservation applicable in the State.

Audit noticed that UoL appointed 17 teachers in 2021-22, but no teacher was appointed under EWS quota as the vacancy of EWS did not fall under the prescribed 100-point roster for the post. In MGKV, no teachers were appointed during 2020-22.

Further, no recruitment of teachers was done in the State Government's colleges during the period 2019-22. The recruitment for teachers in non-government aided colleges was, however, done in 2020-21. Of the total 2,002 vacancies, 182 seats were reserved for EWS category, against which 180 teachers were recruited under EWS category. Higher Education Directorate stated (September 2022) that EWS reservation in recruitment of teachers was provided on the basis of 100-point roster at the college level.

3.4.2 Availability of teachers with minimum prescribed qualification

Paragraph 3.4.4 of UGC (Affiliation of Colleges by University) Regulations, 2009 prescribes that the number of teaching posts, qualification of teaching staff and their recruitment/promotion procedure as prescribed by UGC and condition of the services shall be in accordance with the Statutes[17]/ Ordinance/ Regulation of the University/ State Government/ UGC.

In this context, the State Government prescribed (December 2013) minimum qualifications of 55 *per cent* marks in Master's degree and clearance of National Eligibility Test (NET) for the teachers in university and various faculties in the colleges affiliated to the universities in accordance with the provisions made in UGC regulations 2009. Students registered in PhD before July 2009 were exempted from the condition of clearance of NET.

Audit scrutinised the fresh recruitments of faculty to the selected departments for 2014-20 and found that in case of selected universities and government colleges, the required qualifications were adhered to. But in two non-government aided colleges[18], eight part time teachers out of 149 teachers did not have the requisite minimum qualifications as they had not cleared NET and also not enrolled for PhD before 2009.

3.4.3 Full time teachers with PhD

To assess the efforts of test checked HEIs in making available full-time teachers with PhD degrees, the average percentage of full-time teachers with PhD during 2014-19

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[17] Statute is the document made by the university incorporating the conditions of the ordinance issued by the Government for creation and establishment of the university.
[18] Karamat Hussain Muslim Girls' PG College, Lucknow (five teachers) and Navyug Kanya Mahavidyalaya, Lucknow (four teachers).

was used as an indicator *(Sl. No.7 of Appendix 1.2)*. This indicator is also one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

The status of full-time teachers in general subjects (BA, BSc, BCom, MA, MSc and MCom) with PhD during 2014-20 in MGKV and UoL is given in **Table 3.6(a)**.

Table 3.6(a): Number of full-time teachers with PhD

Year	MGKV			UoL		
	No. of full time teachers	No. of full time teachers with PhD	Percentage	No. of full time teachers	No. of full time teachers with PhD	Percentage
2014-20 (Average)	118	108	92	314	312	99

(Source: MGKV and UoL)

Thus during 2014-20, 92 *per cent* full time teachers in MGKV and 99 *per cent* full time teachers in UoL were PhD holders. As of March 2020, 10 teachers in MGKV and six teachers in UoL were not having PhD degree (***Appendix 3.2***). Further scrutiny revealed that during 2014-20, 15 teachers appointed in UoL without PhD got their degrees during service period.

3.4.4   Full time teachers who receive awards, recognition, fellowship

Since recognition of teachers at State, national and international levels is a marker of their teaching quality and research ability, the percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government, recognized bodies during 2014-20 was used as an indicator *(Sl. No. 8 of Appendix 1.2)* for assessing quality of teaching staff in HEIs. This indicator is also one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

The number of the teachers who received awards, recognition, fellowships during 2014-20 are given in **Table 3.7** below:

Table 3.7: Numbers of teachers who received awards, recognition, fellowships during 2014-20

Name of University	Average no. of full time teachers during last 6 years	No. of full time teachers received state/National/International awards during last five years	Percentage
MGKV	118	Nil	Nil
UoL	314	4	1.27

(Source: MGKV and UoL)

Thus, none of the teachers in MGKV and its test checked colleges received awards, etc., during 2014-20. Only four teachers (1.27 *per cent*) received awards, fellowships in UoL (***Appendix 3.2***).

In case of test checked colleges of UoL, the teachers of two government degree colleges did not receive awards during 2014-20. However, one teacher in one (Karamat Husain Muslim Girls' PG College Lucknow) out of two non-government aided colleges of UoL test checked in audit received award/certificate of appreciation for experimental teaching.

Thus, the fact that the work of very few teachers was acknowledged through awards, recognition, *etc*., indicates that either the standard and quality of teaching was not high enough or the environment in which the faculty taught was not motivating enough to deliver high levels of teaching.

The State Government while accepting the audit observations replied (July 2022) that provision of Saraswati Award to nine teachers and Shiksha Shri Award to 15 teachers for their excellent contribution in the field of higher education has been made in State Teachers' Awards Rules 2021.

The fact remains that very few teachers received state, national and international levels awards, recognition, fellowships, *etc*.

3.4.5 Full time teachers from other States

According to paragraph 7.1.7 (b) of Report on 'Inclusive and Qualitative Expansion of Higher Education' issued under Twelfth FYP, recruitment of faculty should not be entirely from the products of the same university. On the contrary, at least 20 *per cent* of the faculty should be from other States of the country.

To analyse across the State mobility of teachers, the data of teachers recruited from other States in MGKV and UoL were analysed in **Table 3.8**.

Table 3.8: Teachers in MGKV and UoL from other States during 2014-20

Name of University	No. of sanctioned posts	Average no. of full time teachers available	Average no. of teachers from other States	*Per cent* of teachers from other States
MGKV	177	118	04	3
UoL	473	314	25	8

(Source: MGKV and UoL)

Evidently in both the test checked universities the percentage of teachers from other State was far below than the prescribed 20 *per cent (Appendix 3.2).*

3.4.6 Financial support to faculty for attending conference/workshop

To assess number of teachers provided with financial support to attend conferences/ workshops in the test checked university and colleges, the average percentage of such teachers during 2014-20 was used as an indicator *(Sl. No. 9 of Appendix 1.2)*. This indicator is also one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

Audit observed that MGKV, UoL and their 10 test checked colleges did not provide any financial support to the faculty for attending conferences/workshops and towards membership fee of professional bodies during 2014-20. Thus, the Universities neither encouraged nor financially supported continuous professional development of teachers during the period under review.

MGKV stated (July 2022) that the Executive Council had approved (May 2022) creation of seminar-symposium fund. From the interest of the fund, reimbursement of teacher's registration fee up to ₹ 5000 and travelling allowance up to ₹ 25,000 to each teacher participating in national and international seminar/symposium would be given.

| 3.5 | Professional Development/ Training of Faculty |

Paragraph 7.1.3 of Report on 'Inclusive and Qualitative Expansion of Higher Education' issued under Twelfth FYP states that faculty development initiatives could include areas like entry level orientation, curriculum development, teaching and learning, research and innovation, engagement with social concerns and leadership development. Customised faculty development programs may also be developed on a large scale.

Further, as per NAAC Manual[19] teachers need to take initiative to learn and keep themselves abreast with the latest developments, continuously seek improvement in their work and strive for individual and institutional excellence.

To assess number of teachers attending professional development programs in the test checked universities and colleges, the average percentage of teachers attending professional development programs[20] during 2014-20 was used as an indicator *(Sl. No. 10 of Appendix 1.2)*.

The position of teachers attending professional development programs during 2014-20 is given in **Table 3.9**.

Table 3.9: Teachers attending professional development programs

Name of university	No. of full time teachers						No. of teachers who attended professional development during the year (percentage)						
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Average
MGKV	130	121	118	113	123	105	16 (12)	10 (08)	11 (09)	26 (23)	35 (28)	34 (32)	19
UoL	310	302	324	321	317	309	53 (17)	54 (18)	29 (09)	51 (16)	55 (17)	49 (16)	16
Test checked Colleges (MGKV)	215	217	217	223	225	248	08 (04)	10 (05)	08 (03)	11 (05)	14 (06)	10 (04)	05
Test checked Colleges (UoL)	101	101	105	111	115	125	09 (09)	17 (17)	13 (12)	21 (19)	20 (17)	43 (34)	19

(Source: Concern HEIs)

Evidently, on an average 19 *per cent* teachers in MGKV and 16 *per cent* teachers in UoL attended training programs during 2014-20. Further, average percentage of teachers who attended training in test checked colleges in MGKV and UoL was only 5 *per cent* and 19 *per cent* respectively (***Appendix 3.3***).

The State Government stated (July 2022) that teacher's training is done through UGC funded refresher and faculty development programs. It was stated that due to documentation issues, such information may have not been provided by the Universities.

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[19] Para 6.3.3 of NAAC.
[20] Orientation Program/course, Refresher Programme/course, Short Term Programme/course and Faculty Development Programme/ course.

3.6   Robustness of examination and evaluation system

As per NAAC manual[21], the effectiveness of examination system of an HEI depends on regularity in conducting examination, quality of questions, how well it actually tests the programme/course outcomes, *etc*. One of the purpose of evaluation is to provide development-inducing feedback. A high quality evaluation system contributes towards enhancing the competence of students.

3.6.1   Mechanism of setting up of question papers

MGKV and UoL informed that question paper setters for the examinations were selected from a panel of teachers received from Board of Studies and approved by the EC. The papers received from the teachers are moderated by a committee set up by HoD and thereafter the paper is sealed for printing and sent to the examination centers.

3.6.2   Quality of questions in the examinations

Major policy documents dealing with higher education have highlighted that examination reforms are considered as one of the key aspects of overall academic reforms for improving the quality of higher education.

Presence of analytical questions, less repetition of previous years' questions, conduct of open book examinations have been identified in audit as characteristics of good quality examination papers. Audit observations are discussed in the succeeding paragraphs:

3.6.2.1 Presence of analytical questions in the examination papers

Analytical questions are to assess a candidate's ability to study information and apply logic to find patterns or make inferences. Such questions measure critical thinking and problem solving skills of the students.

Audit observed that MGKV did not set analytical questions in examination papers during 2014-20. Further, the HODs/Controller of Examination in UoL informed that the analytical questions in examination papers had been set in seven out of 10 departments test checked in audit during 2014-20.

3.6.2.2   Courses in which open book examinations were allowed

To assess the efforts made by HEIs in introducing open book examinations with a view to enhance the analytical abilities of students and discourage rote learning, the percentage of programs in 2019-20 in which open book examination is allowed was used as an indicator *(Sl. No. 11 of Appendix-1.2)*.

Audit observed that the test checked universities and colleges did not allow open book examination in any of the programs during 2014-20. Thus, the focus of examination was still predominantly on rote learning that does not provide an opportunity to the students to enhance their learning through the medium of examinations.

3.6.3   Status of automation of examinations

Policy documents such as the NEP 2020 and Twelfth FYP suggests that technology usage would bring greater transparency and efficiency to the examination system.

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[21] Para 2.5 of NAAC manual.

As informed by both the test checked universities, the works related to examination such as obtaining examination application forms, opportunity for correcting errors in the examination forms by the students, issue of admit card, declaration of examination results, issue of mark sheet and receipt of application forms for revaluation is fully computerized. In order to provide online facilitation to the students, UoL implemented EASE (Electronic Access to Service of Examination) software with effect from 2019-20. Audit however, found delay in declaration of results as discussed below:

3.6.4 Delays in declaration of examination results

Timely declaration of results is extremely important, especially for graduating students as many of their post-study opportunities such as employment, further studies, enrolment in competitive exams, etc., are dependent upon their performance in the examinations. Any delay in declaration has the potential to cause great damage to the future of such students.

Every year with the start of the academic session, the test checked universities prepare an academic calendar which serves as the time table for all of their activities throughout the year. The universities had decided to declare final results by the month of June each year. Audit noticed substantial delay in declaring results of BA, BCom, BSc, MA, MCom and MSc courses. Details of delay are given in **Table 3.10**.

Table 3.10: Delay in declaration of results

Year	MGKV			UoL		
	Due date	Actual date	Delay (days)	Due date	Actual date	Delay (days)
2014-15	30.06.2015	16.06.2015 to 12.08.2015	43	Not available	Not available	Not available
2015-16	30.06.2016	13.06.2016 to 16.08.2016	47	30.06.2016	Not available	Not available
2016-17	30.06.2017	06.06.2017 to 30.08.2017	61	30.06.2017	Not available	Not available
2017-18	30.06.2018	05.05.2018 to 16.07.2018	16	30.06.2018	04.05.2018 to 29.08.2018	59
2018-19	15.06.2019	30.04.2019 to 15.06.2019	0	15.06.2019	03.05.2019 to 11.09.2019	88
2019-20	15.06.2020	10.10.2020 to 15.03.2021	273	15.06.2020	03.10.2020 to 07.12.2020	175

(Source: MGKV and UoL)

As evident from **Table 3.10**, during the period 2014-15 to 2019-20 the results were delayed in MGKV up to 273 days, except in 2018-19. The information related to declaration of results during 2014-17 was not made available to audit by UoL though asked for. The results during 2017-20 were delayed by 59 to 175 days in UoL. Thus, the Universities failed to effectively manage the process of evaluation and declaration of results due to which there was substantial delay in declaring results.

The State Government replied (July 2022) that each year academic calendar is released by the department in the beginning of academic year, which is to be complied by the Universities. UoL replied that some delays in declaration of results were because of COVID-19.

Fact remains that the delays in declaration of results were persisting in the University since 2017-18.

3.6.5   Grading System

CBCS guidelines (to be effective from 2015-16) provide for standardised letter grades, corresponding grade points, uniform method for calculation of semester grade point average and cumulative grade point average and a consolidated transcript format to indicate a student's performance in each semester. Universities like Banaras Hindu University (BHU) adopted grading system in faculty of Science from 2009-10 and in faculty of Commerce from 2010-11 for evaluation of students and also to enhance interaction and participation of the students.

Audit observed that MGKV did not switch over to the grading system from the conventional marks system in the curriculum. It did not introduce the grading system in the new programs started during 2014-20. In UoL, the grading system has been adopted only in science subjects and that too at PG level only. Thus, the Universities continued with the old marking system.

The State Government stated (July 2022) that government orders have been issued in April 2022 to implement grading system at UG level.

3.7   Attendance of students

As per UGC Regulations 2003, universities were to prescribe minimum number of lectures, tutorials, seminars and practical which a student shall be required to attend for eligibility to appear at the examination which ordinarily shall not be less than 75 *per cent* of the total number of lectures, tutorials, seminars, practical. The MGKV and UoL both prescribed 75 *per cent* minimum attendance for appearing in the examination.

Audit found that in both MGKV and UoL, the departments/faculties were following the practice of taking regular attendance in the attendance register. In UoL, the students with less attendance were debarred from the examination. In MGKV, there was no case debarment due to less attendance.

During 2014-20, all the test-checked government colleges and non-government aided colleges of UoL maintained attendance register and no students were found with less attendance than the minimum required attendance.

3.8   Evaluation Process

Earlier the evaluation of copies of UG and PG courses was done in the universities in a decentralised manner which took too much time in evaluation. To overcome this, a centralised evaluation system was started in the universities wherein teachers adopting a prescribed procedure were selected for evaluation of copies. The centralised evaluation system is discussed below:

3.8.1   Centralised Evaluation System

MGKV and UoL had centralised evaluation system in their campus for evaluation of copies of the examinations conducted by them including of their affiliated colleges. After conduct of examination, a team of coordinators is selected by the Vice Chancellor, who further selects teams as per their choice consisting of sub coordinators for management of evaluation process. For evaluating the examination copies, a team of teachers is selected from a list made on seniority basis.

Audit observed that no standard answer keys were provided to the examiners for evaluation of the copies. As a result, evaluation was done based on the experience of the evaluators which introduces an element of subjectivity in the evaluation process.

3.8.2 Revaluation of answer books

Revaluation in an examination system refers to the requests of students for evaluating their answers afresh who believe that the result they obtained is not commensurate with their own expectations. Universities allow such revaluation as per their statute.

To assess the accuracy of evaluation of examination in the test checked Universities, the average percentage of applications for revaluation leading to change in marks during 2014-19 was used as an indicator *(Sl. No. 12 of Appendix 1.2)*. This indicator is also one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

In MGKV, student who wants to see his/her answer sheet needs to file an application under RTI and pay ₹ 3,000 per paper for revaluation of copies from the academic year 2017-18. This fee was however, higher than the average regular fee of UG (₹ 2,365) courses. The high fees potentially discourage students from seeking revaluation of their answer sheets. The number of students who applied for revaluation during 2017-20 in MGKV is given in **Table 3.11**.

Table 3.11: Position of revaluation of answer books

Name of university	Type of programme	Number of students appeared for examination	No of students applied for revaluation	No. of students' marks changed after revaluation (*per cent*)
MGKV	**UG**	18568	34	29 (85)
	PG	15815	16	16 (100)
Total		34383	50	45 (90)

(Source: MGKV)

It was observed that number of revaluation requests were very few and marks of 90 *per cent* students who applied for revaluation were increased after revaluation.

UoL withdrew the facility of revaluation of copies since introduction of back paper facilities in 1998-99.

The State Government replied (July 2022) that clear instructions have been issued (August 2021) to all Universities for adopting evaluation processes in the context of NEP 2020.

3.8.3 Improvement examination

Audit observed that both the test checked universities allowed students to appear in improvement examinations. In order to assess the outcome of such examinations, percentage of papers in which marks increased during 2017-20 was identified as indicators *(Sl. No. 13 of Appendix-1.2)*. Status of results is given in **Table 3.12**.

Table 3.12: Position of improvement examination

Name of university	Type of program	Number of students appeared in main examination	No of students applied for improvement examination	No. of papers in which students has actually appeared	No. of papers in which marks increased in improvement examination (*per cent*)
MGKV	**UG**	18568	1032	1374	1073 (78)
	PG	15815	626	531	392 (73)
Total		**34383**	**1658**	**1905**	**1465 (77)**
UoL	**UG**	6244	2162	NA	2162 (100)[22]
	PG	6424	621	NA	621 (100)
Total		**12668**	**2783**	**NA**	**2783 (100)**

(Source: MGKV and UoL)

It can be seen from **Table 3.12** above that on an average, marks in 77 *per cent* of papers increased in improvement examinations of MGKV. Further, marks of all students who applied for improvement examinations were increased in UoL. The results of improvement examination in UoL was better than in MGKV. However, the practice of improvement examinations turned out to be beneficial to the students.

3.8.4 Back paper examination

Audit observed that both the test checked universities allowed failed students for appearing in back papers examinations. In order to assess the outcomes of back paper examination, percentage of papers in which marks were increased in 2017-20 was identified as an indicator *(Sl. No. 14 of Appendix 1.2)*. Status of results of improvement examination is given in **Table 3.13**.

Table 3.13: Position of back paper examination

Name of university	Type of program	Number of students appeared in main examination	No. of students applied for back paper exam	No. of papers in which students has actually appeared	No. of papers in which marks increased in back paper exam (*per cent*)
MGKV	**UG**	18568	561	1884	437 (23)
	PG	15815	826	1274	603 (47)
Total		**34383**	**1387**	**3158**	**1040 (33)**
UoL	**UG**	6244	694	NA	143[23] (21)
	PG	6424	1649	NA	1434 (87)
Total		**12668**	**2343**	**NA**	**1577 (67)**

(Source: MGKV and UoL)

It can be seen from **Table 3.13** that on an average, marks in 33 *per cent* papers in MGKV and *67 per cent* in UoL were increased as a result of appearing in back papers. Thus, back paper examinations turned out to be beneficial to the students, however, its result was not encouraging in MGKV.

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[22] In absence of data regarding no. of question papers applied for improvement in UG and PG courses in UoL, the percentage has been worked out with the no. of students applied for improvement examination.

[23] This data is for two years only (2018-19 and 2019-20).

3.9 Betterment of society by creating new knowledge through Research

Paragraph 7.1 of Report on Inclusive and Qualitative Expansion of Higher Education issued under Twelfth FYP recommends that research capacities need to be consciously developed in the colleges. Paragraph 7.1.19 (a) of Twelfth FYP also states that multi-disciplinary mission mode research and innovation programs should be evolved in association with arts, humanities and social sciences which should directly benefit the society at all levels and contribute to economic development. Further, paragraph 3.1 of NAAC manual stipulates that HEIs have to be actively engaged in promotion of research by evolving appropriate policies and practices, making adequate resources available and encouraging active involvement of teachers and scholars in research.

The audit findings on the aspects related to research inputs, activities and research outcomes have been discussed in succeeding paragraphs.

3.9.1 Research Inputs

Paragraphs 7.1 and 7.1.19 (a) of Report on 'Inclusive and Qualitative Expansion of Higher Education' issued under the Twelfth FYP states that adequate funding and initiatives/schemes need to be developed for research activities in HEIs. For this purpose, every university should allocate a certain proportion of their annual budget as an earmarked budget for research and innovation.

In this context, the position of grants received for research activities from government and non-government sources and utilisation thereof in MGKV and UoL during 2014-20 is given in **Table 3.14** below:

Table 3.14: Receipts and utilisation of grants for research activities

(₹ in lakh)

Name	Grants sanctioned	Grants received			Grants utilised			No of research projects undertaken	No of research projects completed
		Govt. sources	Non-Govt. sources	Total	Govt. sources (*per cent*)	Non-Govt. sources (*per cent*)	Total grants (*per cent*)		
MGKV	43.51	31.76	0	31.76	27.91 (88)	0	27.91 (88)	7	4
UoL[24]	691.20	596.16	0	596.16	533.95 (90)	0	533.95 (90)	45	35

(Source: concerned universities)

Research activities were very limited in MGKV. Out of ₹ 43.51 lakh sanctioned by UGC, MGKV received grants of ₹ 31.76 lakh for research work on seven projects. Of this, ₹ 27.91 lakh (88 *per cent*) was utilized during 2014-20. Of the seven projects 4 projects were completed with delay of 377 days to 1,463 days. The remaining three projects were ongoing, however, these projects were also delayed beyond their completion periods.

In UoL, ₹ 5.96 crore out of sanctioned grant of ₹ 6.91 crore was released to nine test checked departments for 45 research projects. Of which expenditure of ₹ 5.34 crore (90 *per cent*) was incurred during 2014-20 (*Appendix 3.4*). Audit analysis revealed that 25 out of 35 projects were completed within scheduled period. Ten projects were

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[24] Test checked departments: 1. English & Modern European Language 2. Economics 3. Philosophy 4. Ancient Indian History & Archaeology 5. Sanskrit 6. Commerce 7. Applied Economics 8. Physics 9. Chemistry 10. Botany.

completed with a delay ranging between 60 and 1,160 days. Further, six projects were prematurely closed (*Appendix 3.5)*.

Grants for undertaking research projects were not provided to the test-checked colleges of MGKV and UoL during 2014-20.

The State Government stated (July 2022) that for encouraging research in universities and colleges a Research and Development Scheme was being implemented by the government. MGKV replied that two projects were delayed due to COVID-19. UoL also stated some delays due to pandemic.

3.9.2 Research outcomes

NAAC suggests[25] that quality research outcome is beneficial for the discipline, society, industry, region and nation. Research outcomes of HEIs include research papers and publications, patents awarded, consultancies given externally, *etc*. Audit assessed these outcomes for the test checked HEIs, results of which are discussed below:

3.9.2.1 *Patents, Consultancy and Researchers undertaking research*

NAAC considers number of patents published/awarded to an institution, consultancy projects undertaken by faculty etc., during accreditation of the institution. To assess the performance of test checked institutions in doing effective research, the number of patents awarded to the institution during 2014-20 was used in Audit as an indicator *(Sl. No. 15 of Appendix-1.2)*.

The details of number of patents awarded, revenue generated from consultancy and number of researchers doing research in the test checked university during 2014-20 are given in **Table 3.15** below:

Table 3.15: No. of patents awarded/revenue generated from consultancy

Name of University	Number of research projects		Number of patents awarded	Number of JRFs, SRFs, Post-Doctoral fellows enrolled for research projects	Number of consultancies given by the university	Amount of revenue generated from consultancies in the university
	Undertaken	Completed (*per cent*)				
MGKV	7	4 (51)	0	6	0	0
UoL[26]	45	35 (78)	0	33[27]	0	0

(Source: MGKV and UoL)

It is evident from **Table 3.15** above that in the field of patents, awards and revenue generated from consultancy, the performance MGKV and UoL during 2014-2020 was negligible. Further, the Universities did not frame policy for providing consultancy and revenue sharing between institution and individuals.

3.9.2.2 *Teachers' contributions to research in HEIs*

The strategic framework of Twelfth FYP seeks to bring excellence in higher education by building synergies between teaching and research to promote excellence in both.

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[25] Para 3.4 of the NAAC manual.
[26] Data of the test checked departments only.
[27] Data of nine test checked departments (Applied Economics, Chemistry, Commerce, English, Economics, Indian History and Archeology, Philosophy, Physics and Sanskrit) only.

NAAC during accreditation of an institution considers number of research papers per teacher published in UGC notified Journals and number of books and chapters in edited volumes/books published per teacher, which underscores the significance of teachers' contribution to research in enhancing the quality of HEIs. Audit findings are discussed below:

- *Number of research papers published*

To assess the performance of an institution's faculty in doing research, the number of research papers per teacher in the Journals notified on UGC website during 2014-20 was used as an indicator *(Sl. No. 16 of Appendix 1.2)*. This indicator is also one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

Audit observed that in MGKV, one research paper was published in UGC notified journals but no books and chapters were published in edited volumes/books and no research papers were presented in national/international conference proceedings during 2014-20.

In UoL, during 2014-20, 1,311 publications in UGC notified journals and 254 books/chapters in edited volumes/papers were published in national/international conferences in nine[28] out of ten test checked departments. In one (Jagatpur PG College Varanasi) out of six colleges test checked in MGKV, 34 research papers were published in UGC notified journals during 2014-20.

No research papers were published in one of the test checked non-government aided college (Navyug Kanya Mahavidyalaya Lucknow) of UoL. However, 03 research papers were published in UGC notified journals in another test checked non-government aided college (Karamat Husain Muslim Girls' PG College Lucknow). Further, 12 books were also published by the college in 2019-20. The expenditure incurred on these researches were the teachers own expenditure. Similarly, the test checked Maharaja Bijli Pasi Government Degree College, Ashiyana, Lucknow published four research papers and 7 books in UGC journals in 2019-20. In Mahamaya Government Degree College, Mahona, Lucknow 39 papers by 22 teachers and 15 chapters in books by 9 teachers were published during 2014-19.

- *Number of teachers awarded international fellowship*

To assess the encouragement and exposure given by test checked HEIs to teachers to undertake research, number of teachers awarded international fellowship for advanced studies/research during 2014-20 was used as an indicator *(Sl. No. 17 of Appendix-1.2)*. This indicator is also one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

Audit observed that no full-time teacher was awarded international fellowships for advanced studies/research in MGKV and test checked colleges of MGKV. Only three faculty (two *per cent*) in two departments (Department of Applied Economics and English & Modern European Languages) out of ten test checked departments in UoL were awarded international fellowship for advanced studies/research.

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[28] 1. English & Modern European Language, 2. Economics 3. Philosophy 4. Ancient Indian History & archaeology 5. Sanskrit 6. Physics 7. Chemistry 8. Botany 9. Applied Economics.

Since very few teachers from the test-checked HEIs were awarded international fellowships for advanced studies/research, it can be inferred that these HEIs either failed to put enough efforts in encouraging and exposing their faculty to international research projects or the faculty themselves were not motivated enough to undertake such activities.

3.9.3 Collaborative and Extension Activities

3.9.3.1 Collaborative Activity: Industry-academia connect

Academia and Industry share a symbiotic relationship. Academia produces graduates who are absorbed by industry. Research work in universities are taken up by the industry and turned into products and services. Industry on the other hand looks to academia for solutions to their concerns. Industry would require universities to tailor their programs to turn out graduates whose skill-sets are aligned to industry requirements. Industry-academia engagement between universities and industries carry the idea of mutuality and sharing of knowledge and expertise. Participation of expertise available in the faculty of the university in offering consultancy to industries and assisting their R&D activities and industries on the other hand assisting universities in placements and internships of students and their skill development and employability are cases in point[29].

Further, as per paragraph 3.7 of NAAC Manual, through collaboration, the HEIs can maintain a closer contact with the work field. It helps keep the academic activities in the HEI in a more realistic perspective and also expand the scope of learning experiences for students.

In order to assess the performance of test checked universities in collaborative activities, Key Outcome Indicator *"extent of industry-academia connect"* **(Sl. No. 8 of Appendix 1.1)** was evaluated on the basis of number of functional MoUs executed with institutions of national/international importance, other Universities, industries, *etc*., during 2014-19.

As per the information provided by MGKV, UoL and their ten test checked colleges, no MoU was executed with any industry during 2014-20. Thus, there was a total lack of connect with job creators impacting placements as mentioned in subsequent paras.

UoL stated (July 2022) that 62 MoUs with various industries, research institutes and other national and international universities has been signed by the university.

The reply of UoL contradicts its earlier reply (December 2020) clearly stating that no initiative was taken by UoL to conduct extension and outreach programmes in collaboration with industries. Further, UoL did not provide details of the MoUs signed due to which Audit could not ascertain as to when and by which Department the said 62 MoUs had been signed.

3.9.3.2 Extension activities in collaboration with industry, community, etc., and student participation

As per paragraph 3.6 of NAAC manual, learning activities have a visible element for developing sensitivities towards community issues, gender disparities, social inequity,

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[29] UGC guidelines for establishment of University-Industry inter linkage centres.

etc., and in inculcating values and commitment to society. Affiliation and interaction with groups or individuals who have an interest in the activities of the institution and the ability to influence the actions, decisions, policies, practices or goals of the organisation leads to mutual benefit to both. The processes and strategies inherent in such activities sensitise students to the social issues and contexts.

In order to assess the efforts made by test checked universities in encouraging extension and outreach programs conducted in collaboration with industry, community and NGOs (NCC/NSS/Red Cross, *etc*.), the Key Outcome Indicator *"extent to which industry has been consulted or has provided sponsorship and funding, in a collaborative environment" (Sl. No. 9 of Appendix 1.1)* was to be evaluated on the basis of the average percentage of students participating in these extension activities during 2014-20 *(Sl. No. 18 of Appendix 1.2)*. This indicator is also one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

Audit found that both the test checked universities and test checked colleges of MGKV did not undertake any extension activities in collaboration with industries/communities, *etc*., during 2014-20.

One (Karamat Husain Muslim Girls' PG College, Lucknow) out of four test checked colleges of UoL, organised extension and outreach programme in 2018 and 2019. Thus, test checked HEIs was not encouraging extension and outreach programs in collaboration with industry, community and NGOs.

3.9.3.3 *Lack of research policy and monitoring mechanism for research*

As per Paragraph 3.1 of NAAC manual, promotion of research is a significant responsibility of the HEIs particularly for Universities without which a research culture on campus cannot be realised. The HEIs have to be actively engaged in this through evolving appropriate policies and practices, making adequate resources available, encouraging active involvement of teachers and scholars in research as well as recognizing any achievement of teachers through research. It also includes responsiveness and administrative supportiveness (procedural flexibility) in the institution in utilising the support and resources available with the Government agencies and/or other agencies.

Audit observed that as of March 2020, MGKV and UoL did not have their own policy for undertaking and development of research in different fields of industries/academia and also for their academic departments. Centralised data regarding year-wise number of research projects proposed, sanctioned, amount sanctioned, sponsoring agency, progress of expenditure, *etc*., were not maintained in UoL. The information of funds received, expenditure incurred and progress of the research projects was only available with the concerned Principal Investigators (PIs).

The State Government replied (July 2022), that it had made a research policy in 2021.

3.10 Students progression towards employment and higher studies

Increase in employability and progress to higher studies were identified as the most important outcomes that students expect from higher education. Achievement of these outcomes are directly dependent on a number of factors which, besides the quality of education imparted, specifically include availability of career counselling cells,

placement cells, alumni associations and proper maintenance of data of graduating students. The existence and effective functioning of such facilitating mechanisms is essential to increase employment opportunities for graduating students. Audit findings regarding job placements, factors aiding job placements and success rate in competitive examinations are discussed below.

3.10.1 Placement Cell, Career Counseling Cell and Alumni Associations

3.10.1.1 Placement Cell

As per NAAC and UGC guidelines[30] Government Colleges need to constitute a placement cell to promote the placement of the students through their campus.

Audit observed that MGKV was organizing campus placement through University Employment Information and Guidance Bureau since 2016-17 and it opened a Placement Cell in 2018-19. In UoL, Central Counseling and Placement Cell (CPC) was formed in March 2017. MGKV and UoL provided data for organising of job fairs and placement done during 2016-20 as given in **Table 3.16**.

Table 3.16: Job fairs organised in MGKV and UoL

Particulars	Number of job fairs organized				
	2016-17	2017-18	2018-19	2019-20	Total
MGKV					
No. of job fairs organised	6	5	17	14	42
Students placed	200	78	301	202	781
Medium salary (Average yearly salary in lakh)	1.8	2.25	2.4	2.25	
UoL					
No. of job fairs organised	1	6	3	3	13
Students placed	672	1020	720	280	2692
Medium salary (Average yearly salary in lakh)	3.50	3.50	3.50	4.70	

(Source: MGKV and UoL)

In MGKV and UoL, 781 and 2,692 students respectively were placed in these job fairs organised during 2016-20.

Out of six test checked colleges in MGKV, placement cells in Jagatpur PG College and Sakaldiha PG College in MGKV were formed in 2017-18 and the Jagatpur PG college placed nine students in a job fair organised in 2017-18.

Placement Cell in two test checked Government Colleges[31] of UoL were also not formed. The placement cell in the two test checked non-government aided colleges in UoL were formed. Three job fairs were organised by Karamat Husain Muslim Girls' PG College, Lucknow during 2017-20 and 46 students were placed. In two job fairs organised by Navyug Kanya Mahavidyalaya Lucknow, three students were placed during 2014-16.

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[30] Paragraph 5.2 of NAAC Manual, UGC guideline for general development assistance to central, deemed and state universities during XIth plan.

[31] Maharaja Bijli Pasi Government PG College, Ashiyana, Lucknow and Mahamaya Government Degree College, Lucknow.

Thus, opening of placement cells is a new phenomenon in the test-checked HEIs and the numbers placed through placement cells confirm that the culture of placement through campus has not caught on particularly in government colleges.

3.10.1.2   Career Counseling Cell

Career Counseling Cell supports students in development of soft skills and communication ability to meet the rigors of competitive examination, on-job-training etc. UGC in its guidelines[32] underscored the importance of well-functioning Career and Counseling Cells in addressing the diverse socio-economic handicaps and geographic backgrounds of the heterogeneous population of students coming to the universities vis-à-vis equity of access and placement opportunities through availability of appropriate institutional support information. Audit findings are discussed below:

In MGKV, no Career Counseling Cell (CCC) was formed. As stated by the University, the function of career counseling was being done by University Employment Information and Guidance Bureau. However, documentary evidence for such counseling was not provided to audit. Further, CCC was not established in the six test checked colleges of MGKV also.

In UoL, Counseling and Placement Cell (CPC) was formed in March, 2017 to provide successful and better placement opportunities to its students and build up their potentials and capacities. The University stated that career counseling to 17,081 students was provided during 2017-20. However, records of CPC were not provided to audit though asked for due to which achievement of its objectives could not be verified.

The CCC was not established in test checked Government Colleges of UoL. As replied by the colleges, the counseling was done by the teachers in classes itself. However, it was formed in the two test checked non-government aided colleges and counseling was done. Thus, career counseling was not properly institutionalised.

3.10.1.3   Alumni Association

An active Alumni Association has the potential to contribute significantly in academic matters, student support as well as mobilization of resources through financial and non-financial means[33].

The Alumni Association in MGKV was registered (December 2010) under Society Registration Act, 1860 under the name of *Puratan Chhatra Samiti*. As stated, association organised annual central alumni meet each year during the period of 2014-20. However, financial help was not provided by *Puratan Chhatra Samiti* to the University.

The governing body of Alumni Association in UoL was constituted only in January 2018. Since establishment of the governing body nine meetings were held. Membership fee of ₹ 7.55 lakh was received during 2017-20.

Alumni Association was established in one of the test checked government colleges (Maharaja Bijli Pasi Government PG college, Lucknow) of UoL in the year 2017-18 and its meetings were held during 2017-18 and 2018-19 but no meeting was held in

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[32] UGC guidelines for general development assistance to central, deemed and state universities during XIth plan.
[33] NAAC Manual.

2019-20. In Mahamaya Government Degree College, Mahona, Lucknow the association was not formed.

Alumni Association of Karamat Husain Muslim Girls' PG College, Lucknow was not registered. As per the information provided, its two meetings were held during 2019-20. Alumni Association was formed in Navyug Kanya Mahavidyalaya, Lucknow but no meetings were held during 2014-20.

The Alumni Association in two (Jagatpur PG College Varanasi and Sri Agrasen Kanya PG College Varanasi) out of six test checked colleges in MGKV were established which held six and nine meetings respectively during 2014-20.

Thus, Alumni Associations had a very limited role in extending the network of the students into the job market. No activity leading to securing jobs through the Association were noticed in audit.

3.10.2   Progress to higher studies

Along with employment, progress to higher studies for post-graduation, doctorate and post-doctorate studies, etc., is a career option that students aspire to take up. In order to assess how well test checked universities and colleges did in sending their students for higher studies, increase in percentage of students progressing to higher education during 2019-20 is used as Key Outcome Indicator *(Sl. No. 1 of Appendix 1.1)*. It is one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

Audit observed that MGKV and UoL and their test checked colleges, except Karamat Husain Muslim Girls' PG College, Lucknow, did not maintain data of students going for higher education either outside the university or colleges or pursuing the higher education in same university 2014-20. Karamat Husain Muslim Girls' PG College Lucknow maintained records of 20 students who progressed to higher education during 2014-18. In the absence of data, Audit could not comment on the performance of the Universities with respect to this indicator.

The State Government stated (July 2022) that in order to increase employment, employment-oriented education is strengthened by the Higher Education Department and the Government by organizing different programs, *viz.*, NCC, NSS, Rovers Ranges, Career Counseling Cell, Placement Cell, Innovation Cell, *etc*. However, reply on the specific issues raised in audit was not furnished.

3.10.3   Qualifying in Competitive Examinations

Competitive examinations held at the national and State levels provide immense opportunities for student progression. A number of competitive examinations are held for graduating students to qualify for employment or for progressing to higher studies. Qualification in competitive examinations is an important criterion of NAAC's assessment and accreditation process of higher education institutions.

In order to assess an institution's ability to adequately equip its students for qualifying such examinations, average percentage of students qualifying in State/National/ International level examinations during 2014-20 has been used in audit as Key Outcome Indicator *(Sl. No. 2 of Appendix 1.1)*.

The Annual Quality Assurance Report (AQAR) of MGKV and UoL depicts number of students qualifying in the competitive examination out of total UG, PG, PhD and others students during 2014-20. This data is given in **Table 3.17**.

Table 3.17: Number of students qualified in the Public Examinations

Year	No. of students qualified in Public Examination (UPSC, SSC, State PSC, NET, CAT, GATE, *etc.*)					
	MGKV			**UOL**		
	Students enrolled	**Students qualified**	**Percentage**	**Total students**	**Students qualified**	**Percentage**
2014-15	8577	17	0.20	19272	65	0.34
2015-16	8599	0	0.00	20098	77	0.38
2016-17	8170	0	0.00	20908	97	0.46
2017-18	8178	106	1.30	20721	74	0.36
2018-19	8881	80	0.90	16522	125	0.76
2019-20	8592	Not available	--	15562[34]	547	3.51

(Source: MGKV and UoL)

The data shows a fluctuating trend in MGKV which was 0.20 *per cent* in 2014-15, 1.30 *per cent* in 2017-18 and reduced to 0.90 in 2018-19. The data in UoL showed mostly increasing trend from 0.34 *per cent* in 2014-15 to 3.51 *per cent* 2019-20.

In the case of test checked colleges of UoL, Navyug Kanya Mahavidyalay, Lucknow and Mahamaya Government Degree College, Mahona, Lucknow did not maintain data of students qualifying in the State/National or International level competitive examinations. Karamat Husain Muslim Girls' PG College, Lucknow maintained data of three students qualified in competitive examinations. Maharaja Bijli Pasi Government PG College, Lucknow also maintained data of students qualified NET and JRF examinations.

Thus, MGKV and its constituent colleges did not maintain data as per AQAR. In case of UoL, the performance was improving but it was not satisfactory as less than one *per cent* of students qualified in competitive examinations during 2014-19 and only in 2019-20, there was an increase to 3.51 *per cent*.

3.10.4 Performance of Students in University Examinations

NAAC and NIRF in their assessment criteria have identified that effectiveness of a higher education institution is reflected through many student centric aspects including student's performance in the examinations, average pass percentage of students, percentage of students graduating with higher divisions etc.

In this context, test checked HEIs have been evaluated on the basis of examination results using average pass percentage of students during 2019-20 as indicator *(Sl. No. 2 of Appendix 1.2)*. This indicator is derived from one of the key indicators used by NAAC during assessment and accreditation process of HEIs.

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[34] This is the data of UG and PG students provided by the Director IQAC Cell of the university.

Division-wise results were also analysed of the test checked universities. This was important because getting campus placements as well as enrolment for higher studies are generally through competitive processes in which merely passing is not enough to be successful.

The data relating to average pass percentage and division wise result of all students who appeared in final year examinations in under graduate and post-graduate programs of Science, Arts and Commerce streams during 2019-20 in test checked universities are detailed in *Appendix 3.6* and summarised in **Table 3.18**.

Table 3.18: Performance of students in examinations during 2019-20

Particulars	MGKV Varanasi	Test checked College of MGKV	UoL Lucknow	Test checked College of UoL
	No. of students (*per cent*)	No. of students (*per cent*)	No. of students (*per cent*)	No. of students (*per cent*)
Students appeared	3538	11007	4314	3477
Students passed	3176 (90)	10750 (98)	3140 (73)	3121 (90)
Students passed with first division	1364 (43)	2272 (21)	1525 (49)	319 (9)
Students passed with second division	1676 (53)	6535 (61)	918 (29)	948 (40)[35]
Students passed with third/without division	136 (4)	1943 (18)	697 (22)	936 (39)

(Source: MGKV and UoL)

It could be seen from **Table 3.18** that in MGKV about 90 *per cent* students and in UoL about 73 *per cen*t student passed in examinations during 2019-20. Forty-three *per cent* and forty-nine *per cent* students in MGKV and UoL respectively passed with first division. Substantially less number of students passing with 1st division in colleges is an indicative of weak performance of colleges in regard to quality of education. Further students passing without division indicated that the quality of education needs to be improved.

Conclusion and Recommendations

The curricula were not regularly revised/updated considering the needs of industry, because of which focus on employability could not be ensured. Student Teacher Ratio was much higher, besides effort towards professional development of teachers was also insufficient. Results were declared with delays in test checked Universities. Research projects were delayed and also closed midway without their outcomes. No patents were awarded and no consultancy were given. The placement through campus placement cells was not encouraging, particularly in government colleges.

Recommendation 4: Timely revision of curriculum may be ensured and courses having focus on employability may be included.

Recommendation 5: In order to ensure quality education, the State Government and

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[35] Excluding the data of Maharaja Bijli Pasi Government Degree College Ashiayana Lucknow which did not have complete data.

the Universities should maintain prescribed Student Teacher Ratio in government Colleges and Universities.

Recommendation 6: *For improvement and continuous development in the performance of teachers for individual and institutional excellence, the State Government and the Universities should conduct relevant professional development programs regularly and ensure that all teachers are imparted training in these programs.*

Recommendation 7: *Examination system and delay in declaration of results should be closely monitored.*

Recommendation 8: *Quality and timeliness of research should be ensured by the Universities/State Government by close monitoring of the projects.*

Recommendation 9: *The State Government/Universities should ensure that placement cell and career counseling cell are set up in all Higher Educational Institutions.*

Recommendation 10: *The Higher Educational Institutions should put in place a robust system of collecting and maintaining data relating to higher studies and placement of students.*