

Vidarbha Youth Welfare Society's
INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH
Borgaon (Meghe), Wardha (M.S.)

Best Practices

2017-18

Best Practice 1:

1. Title of the practice:

Teaching – Learning and Evaluation

2. Goals:

- a. To build competency in the students for the harsh professional competition
- b. To facilitate and promote teaching and learning process
- c. To facilitate teachers academic and professional growth
- d. To implement students assessment and evaluation procedure
- e. To meet the basic aim of MISSION for running the programme
- f. To meet the basic objectives of the programme outcomes (POs), course outcomes (Cos) and programme educational outcomes (PEOs)

3. The Context:

In this context, the institute has employed qualified, experienced and skilled faculty. In the institute, students are admitted through centralise admission process (CAP) conducted by Department of Technical Education (DTE), Maharashtra state. Since the institute is established in 1991 and presently acting as one of the reputed pharmacy institutions, the meritorious students are being admitted every year. The institute has developed adequate physical facilities, maintenance and optimal use of infrastructure, library and computer facilities and other learning resources to run the programme more efficiently.

4. The Practice:

Basically, the teaching-learning activity is composed of teacher, student, learning process and learning evaluation. The teacher prepares the teaching objectives, decides the curriculum plans and employs the teaching-learning process by planning units of syllabi and methods of teaching. The teaching-learning evaluation is then made by oral, written and practical techniques along with theory and practical records.

In this process, teachers of the institute utilize computers / laptops and other audio-visual aids to motivate the learning. The institute has appointed competent teaching faculty in

accordance with the University Grant Commission (UGC) norms (i.e. by approved University Selection Panel). Teachers use to prepare academic planner according to the respective academic sessions and syllabi. The teaching is further recorded in daily diary (which is checked and signed by the principal in every week) and attendance register. Teachers of the institute are enough to teach by different methods of teaching using audio-visual aids, computers/ lab tops etc. The teachers inculcated the habit of reading latest books available in the library to provide very recent knowledge of the subject. Moreover teachers are also engaged to use internet facility in downloading the latest reading materials to improve overall teaching-learning process. Teachers use the lecture method with the black-board and other teaching aids. They use to identify and group students according to their ability to provide additional coaching. For evaluation of the teaching-learning process, teacher conducts surprise tests, class tests, and carries out evaluation by fair means.

In the institute, faculty evaluation is done by Principal periodically. Moreover teachers are being evaluated by outgoing students on the basis of teaching attributes, knowledge, academic qualification and research qualification and steps taken by the teachers for improving their subject knowledge. Additionally, the institute conducts feedback of the faculty from the students. The principal of the institute then do interpretation, analysis and issue feedback certificate to the individual faculty along with suggestions if any.

5. Evidence of success:

The teaching –learning activity is known to raise the performance level of the institution. Since quality of education and excellence of an institution is directly linked with the quality of output of its graduates in different spheres, the institute is being engaged to take the efforts. The institute is also known to provide quality of teaching and modern infrastructure facilities in all over India so as to build quality education and to produce competent pharmacrats (graduates) to foster the harsh competition present in the pharmacy profession.

6. Problems encountered and resources required:

The institute is accredited by National Board of Accreditation (NBA) for two times. Since the institute is established in a remote rural area, there are some levels of shortcomings and weaknesses for example support of Pharmaceutical industries to the institute.

Best Practice 2:

1. Title of the practice:

Research and Development

2. Goals:

- a. To promote teaching and research activities
- b. To promote linkage of the institute-industry through research activities
- c. To motivate the faculty members, post-graduate students and research scholars
- d. To enhance awareness and realization of the faculty members and the students toward research activities
- e. To generate revenue to further boost research activities and other required facilities

3. The Context:

Any premier research and education institutes use to expand research-education technology, research-industry nexus as well as research-training integration. The development of the best practices in research relies on the appropriate recruitment of the most qualified and experienced faculty. Moreover R & D activities are the altogether efforts made by both the students and teachers. The institute of Pharmaceutical Education and Research is established in 1982 with Diploma course in Pharmacy and presently grown to a large extent conducting B. Pharm., M. Pharm. and Ph.D. courses in Pharmacy with national level reputation among the pharmacy institutions. The institute is running P.G. programmes in Pharmaceutics, Pharmacology and Quality Assurance with highly qualified and experienced faculty. The students of the institute inculcate habit of research activities, in particular the students of P.G. courses.

The institute has been established with all those facilities required to undergo research and development activities. The institute has also signed MOU with different Pharmaceutical industries i.e. Ipca laboratories Pvt. Ltd., Mumbai; Shri Baidyanath Ayurved Bhavan Pvt. Ltd., Nagpur; and Siddhayu Ayurvedic Research Foundation Pvt. Ltd. Nagpur for carrying out different research and consultancy activities. Since these research activities are conducted from last 17 years, it is revealed that the institute (along with faculty members, research students and whole organization) is substantially gaining importance in the Pharmacy profession.

4. The Practice:

The institute is a recognized research (Ph.D.) centre, affiliated to RTM Nagpur University, Nagpur. In the institute, researches related to formulation and development, synthesis and

development of biologically active drugs, pharmacological screening (preclinical) of drug substances, herbal drug researches along with analysis and validation of different spectroscopic and chromatographic methods for the pharmaceuticals as well as herbaceuticals are carried out.

For executing the above-mentioned research and development activities, the institute has purchased most of the required instruments. The institute has established a sophisticated spectroscopy and chromatography laboratory, Pilot Plant with various instruments especially used for the formulation and development researches along with different instruments available in the pharmacology and other laboratories.

In the year 1999, the institute has started M. Pharm. programme in Quality Assurance followed by M. Pharm. in Pharmaceutics (2001), Pharmaceutical Chemistry (2004) and Pharmacology (2008). Since inception of different post-graduate courses, the B. Pharm. students always prefer to admit for their P.G. programmes in I.P.E.R. due to infrastructure, quality education and research activities, experienced and highly qualified faculty etc.

The institute has been approved as a research (Ph.D.) centre by R.T.M. Nagpur University since year 2000 with 10 student's intake capacity. Initially, Prof. Dr. P.G. Yeole was the Ph.D. supervisor. Now, Dr. R.O. Ganjiwale, Dr. M.P. Puranik, Dr. S.A. Khan, Dr. S.J. Dighade, Dr. L.G. Rathi are approved as Ph.D. supervisors by R.T.M. Nagpur University, Nagpur. Till date, a total of 17 students have awarded with Ph.D. and 2 more students are pursuing Ph.D. For Ph.D. programme, students of different disciplines were registered and carried out research works related to the formulation and development, synthesis of new chemical entities, pharmacological and biological screening of drug substances employing in vitro and in vivo assays in the experimental animals, phytochemical isolation, purification and characterization along with phytochemical analysis and validation studies, and phyto-formulation as well as phyto-pharmacological protocols.

In the standpoint of research and development, the Ph.D. scholars have developed innovative methods i.e. (a) rapid isolation, purification and identification of the phytocompounds, (b) herbal drug development as immunomodulatory medicine, (c) synthesis and development of new chemical entities, (d) development of nasal drug delivery systems, (e) acute and chronic toxicity (safety and efficacy) studies on the polyherbal formulations, (f) development of HPTLC validated methods for the in-house authentic markers, (g) validation and accelerated stability studies on the allopathic marketed formulations containing different APIs.

It has been revealed that the aforementioned innovative researches are published in the peer-reviewed journals of international repute with high impact factor. When survey is carried out

using *www.google scholar.com* and *www.scopus.com*, it is evident that some of these published research articles have been cited extensively for more than 50 citations in the reputed journals suggesting the acceptability and the utility of the researches carried out in the institute. More than 2000 citations is the achievement of institute.

Moreover, faculty of the institute are actively involved in the submission of the research project proposals to different Government authorities for the funding sources resulted into approval of a total of 8 research proposals by AICTE as mentioned below-

- a. Upgradation of Teaching Aids and Development of Educational Tools for Pharmaceutical Education Using Multimedia Technology
- b. Phytopharmacological Screening of Herbal Drugs
- c. Brain Targeting of Drugs by Nasal Delivery System
- d. Computer Aided Drug Design and Synthesis of Novel Antimicrobial and Anticancer Agents
- e. Industry Institute Partnership Cell
- f. Standardization of Metal Based Herbal Medicines
- g. Herbal Drug Development as Immunomodulatory Medicine
- h. Design and Development of New Molecule by Microwave Assisted Synthesis

In addition, AICTE has approved 8 conferences/ seminar / faculty development programme / symposia proposals. Currently, in addition to AICTE, the institute has submitted some of the research proposals to the University Grants Commission (UGC) since the institute is affiliated to UGC under 2 (f) and 12 (B) scheme.

Interactions of institute with industries provide new avenues for applied research. Therefore, in this context, the institute has signed MoU with different pharmaceutical industries i.e. Ipca Laboratories Pvt. Ltd., Mumbai, Baidyanath Research Foundation Ltd., Nagpur and Siddhayu Ayurvedic Research Foundation Pvt. Ltd., Nagpur. The R & D activities, in collaboration with the pharmaceutical industries, are mainly aimed at the elucidation of acute and chronic toxicity studies (safety and efficacy evaluation) of the polyherbal products manufactured by these companies. Moreover, Ipca Laboratories Pvt. Ltd, Mumbai have been sponsored a number of projects related to pharmacological screening (preclinical) of the finished pharmaceutical products (in combinations) using *in vivo* assays in the experimental animals.

Depending on the type of study protocol, the suitable experimental animals are used. The acute and chronic toxicity studies are undertaken by following OECD guidelines. For the pharmacological screening of the finished pharmaceutical products, the officially

recommended methods/ protocols are being employed. The institute has been developed all these facilities required to execute the protocols within the stipulated period of time.

5. Evidence of success:

Research and development activities have been greatly benefiting the institute. The faculty members as well as post graduate students of the institute are inculcating the novel researches and other innovative ideas through R & D activities. Till date, more than 175 research articles are published in the journal's of high repute. The innovative researches developed in the institute by P.G. and Ph.D. scholars have been largely utilized for their own purposes and exploiting the profession (Pharmaceutical Sciences) at a large. Interestingly, the institute is recognized with a good reputation in the field of pharmacy. To sum up, the institute is established in a remote rural area with remarkable levels of excellent research culture and integrity towards the R & D activities.

6. Problems encountered and resources required:

Output of the best R &D is also depends on the availability of modern infrastructure with the expensive chemicals, reagents etc. Therefore, removal of obsolescence has to be a vigorous and continuous process. Although the institute got some funds from AICTE, it needs more funding to foster the present needs of further growth in R & D activities.