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TOMORROW'S SCHOOL

Tomorrow's school will have no rejects: it must guarantee every child a high minimum of accomplishment in fundamental skills.

The schools must utilize the individual's own rhythm, his own learning speed, his own pattern.

- Peter F. Drucker

EDITORIAL

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("EDUCATIONAL INDIA" was founded by Prof. M. Venkatarangaiya and late Shri M. Seshachalam, in 1934 with Dr. S. Radhakrishnan's Blessings and Good Wishes)

His magnetic, arresting and resonant voice still rings in our ears.

- Fditor



EDUCATIONAL INDIA

Education and Our National Ethos

By

Shri K. Thiagarajan,

Hony. Secretary, United Writers' Association, Madras-600 018.

"HE world today is confronted with a crisis and the field of education is undergoing a great transformation with the growing student unrest in the country. The belief that it is the responsibility of the university to train students for jobs appears to be misleading and harmful. In fact, such erroneous notions have clouded practical vision and prevented realistic planning in extending the scope of education and adapting it to national needs and development. Thanks to the unending chant of denunciation, a general atmosphere of cynicism prevails in the academic circles and, having lost faith in the system, both the teachers and the pupils are haunted by the feeling of pursuing a purposeless and puerile No wonder the teachers activity. lament that the student indiscipline is resulting in the fall of academic standards precisely as the students attribute indiscipline to the fall of educational standards.

The poverty of educational planning in our universities is evident

from the fact that instead of preparing the younger sections of our society for shouldering the responsibilities for developmental tasks, they merely curbing independent succeed in thought, action and enquiry. A sound system of education does not merely concentrate on transmitting a body of accumulated knowledge to the student. It should encourage independent thought and intensive enquiry. It seeks to enable the student to sift and weigh evidence to discern fact from fiction and formulate value-judgments. In his book, "Future Shock", Toffler paints a vivid picture of the transformation and fragmentation of societies, institutions and families as a result of accelerated social, cultural and technological change.

If the Indian student is to cope successfully with the world of tomorarow, the central goal of any educational system must be the rapid expansion of his capacities for proablem analysis, solution and decision-making. Increased emphasis will

have to be laid on the students' ability for rational enquiry and capacity for creative thinking rather than mechanical absorption of recorded doctrines. Bogged down with mundane facts and absolute figures, the student tends to lose the spirit of enquiry, the adventure of independent discovery and the spontantety of responding to the challenges of life. Hence all aspects of humanitarian education which contribute to personality and character formation should receive foremost attention.

There are numerous reasons for the virtual collapse of higher education in India. The monetary cost of school and university education is quite a heavy burden on most sections of society. The high university fees, hostel charges, transport expenses, expenditure on books etc., do not bring about an adequate return to the student in terms of a good job after graduation, which would take care of his basic needs. Thus they are frustrated with an educational apparatus which provides no intellectual stimulation. The unemployment sword of Democles hangs perpetually on their heads and this adds to their insecurity and fear. bitterness and frustration among the thinking minority of the student community is more dangerous than the outbursts of vandalism among the large mass of students.

Academic and intellectual stagnancy in conjunction with peripheral issues, has prevented the emergence of genuine radicalism on the Indian campuses. The increase in the college tution fees by a few paise resulted in the destruction of public property worth lakhs of rupees by students at Baroda. The refusal of cinema authorities to grant special concessions to students led to massive vandalism in Agra about 8 years ago.

Stiff examination papers, the politica views of a faculty member, the personal lives of university authorities—all provide fuel to the aimless anger and frustration of the students.

Failing to find any sense of achievement or fulfilment in the classroom. the student turns outside. Lamentably, there has been no organised endeavour to use the energies and enthusiasm of the students for the task of social reconstruction. During pre-independence days the students were deeply involved with the freedom struggle and their energies and ideals were fruitfully employed. For instance, student unions can play a vital role in forging closer and relevant links between the faculty and the students. They can become effective instruments of social and economic change within their universities and communities. By analysing the major problems confronting their universities in particular, and society in general, students acting as a cohesive unit can become an effective and dynamic agent of change. The Education Commission 1964-65 noted student unions "represents an important way of providing student participation in university life outside the classroom. Properly organised they help in self-government and self-discipline." But present-day student unions in the country have become hot-beds of petty polities and are calculated to disrupt the academic life of the universities.

There is an urgent need to revamp and modernise the educational system and our universities, if we are to equip our students with the conceptual and professional skills required to face the challanges and to infuse a new national ethos in the edifice of our educational structure. All this can be possible only if the current attempts at the regimentation of higher

aducation are abandoned and if unqualified autonomy is granted to universities. To ensure that competition among universities does not lead to the lowering of students, there may be some co-ordinating agencies at the state and central levels whose task should be to spell out the national aims in broad terms, review (rather than direct) academic trends and offer advice. Teaching in the universities must be made financially lucrative so as to draw the best talent in the country. The existing syllabus need to be thoroughly revamped and it should be revised periodically. The examination system should be made a semester one, so that the student is evaluated constantly - through written examinations and classroom performances. Education must be made more vocational and professional so as to provide greater relevance to the courses.

All these years there has been plenty of talk about reform and modernisation of the educational system

by members of the academic community at seminars and symposiums. Periodic reports and resolutions are written to collect routine dust on the shelves of the universities. All this has to change. India, having forth on the path to economic achievement, cannot but give the highest priority to education. This education should be suited to national needs, appropriate to national temperament and calculated to promote unity and progress. Only education will make a nation great and enable the people to enjoy the fruits of their labour. It is an essential prerequisite for the building up of a democratic socialist society. Thus, as William Russell said, "it is in education that the democracies must place their trust." Democracy, being the government of, by and for the people, cannot succeed unless the people are edu-Therefore, it is "upon the education of the people of this country, the fate of the country depends."

INDUSTRIAL DEVELOPMENT

IN ANDHRA PRADESH AND GENERAL PROBLEMS

BY: Dr. RAM K. VEPA, I. A. S.

The book is broadly divided into two parts: the first refers exclusively to Andhra Pradesh and deals at length with the story of its growth in the last ten years and on several aspects of this growth such as Small Industry, Rural Industry, Large and Medium Enterprises etc. There is a chapter on the Medium Industries Development Programme of Andhra Pradesh Industrial Development Corporation with which the author was closely connected. The second part deals with general problems of industrial development in the country such as the small industry programme, industrial estates, impact on National integration etc..

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Practical Examination

By

Shri M. Muthusubramanyam,

B. E., M. Tech., F. I. T. P., M. I. S. T. E., M. R. SC. A., M. I. I. P. A. Jagadambal Colony, Madras-14

PHAT there is urgent need to atleast improve examination system if not actually reform it is a truism to-day to be elaborated. The main point of agreement among all concerned is that the present system of examination has a crippling effect on the educational system itself. effect education reforms aimed at better standards of education will be futile if the present system of examination continues. It is this line of thinking that has resulted in rather undue leaning in favour of internal assessments.

At the same time the validity of the present system of centralised impersonal examination—at a particular point of time, simultaneously to several students—in ensuring an unbiassed and uninfluenced grading of all the students is accepted by many.

Thus the whole question of examinations and evolving a compromise formula to get the advantages of both the systems. While a lot of study and thinking has gone into this and several alternate solutions have been put forward by many as far as theory examinations are concerned, surprisingly little seems to have been done in the sphere of practical examinations.

In this article an attempt is made to analyse the present situation in this sphere and suggest some improvements.

Practical examinations vis-a-vis practical subjects: What exactly should be evaluated through a practical examination? This question can be answered only after considering what the student is expected to have learnt in the practical classes. The present system incidentally does not make any distinction between different 'practicals' as far as examination is concerned.

Practical subjects can be divided into the following 3 groups:

- 1) Practicals meant for testing and applying (and even developing) certain hypotheses learnt in theory—like physics practical.
- 2) Practicals where certain skills are to be developed—e. g. workshops in technical institutions.
- 3) Practicals where (1) and (2) are found in combination e.g. survey practical in civil engineering courses where theory is made use of in analysing and processing the data obtained by using instruments, and where the ability to handle and use the instruments is to be developed as a skill.

Accordingly the objective of conducting practical examination in the three different cases will also different and thus the questions set and importance given for the external examination should also vary; but instead of the present practice, the cumulative result of internal assesments made throughout the year continuously must be given greater weightage-as much as 75% than the final university examination. this measure, the chances of a caudidate who has regularly attended all the practical classes and sincerely done all the exercises getting declared to have failed in that subject just because he happens to have got a faulty instrument on the examination day will be reducd greatly.

Also the ratio between the number of examiners and the number of candidates to be examined in one batch should be so fixed that it is possible for the examiners to go round and watch the students while they do the practicals and observe the relative skill and efficiency of the students in handling the instruments.

Ability to draw as per a design is as mach a skill as ability to make a joint in carpentry. In subjects like structural design and drawing, the theoretical knowledge and the ability of the student to design is tested in the theory paper. Hence the drawing paper should be so framed as to measure the ability of the student to transfer a set of specifications into drawings within a given time. Thus for drawing papers also a system of maintaining records which will carry 75% should be introduced as in other practical examinations.

By delinking practical marks from theory marks for purposes of a declaring class or division, the motivation to boost the practical marks of one's wards as well as to penalise an unpleasant student will be greatly reduced; this could further be strengthened by delinking internal assessments and examination mark showing these separately in the marks sheet as suggested in the U. G. C. pamphlet.

Based on the above observations a set of suggested improvements to the practical examination system is given: besides, a few remarks on the possible improvements in examinations in general and certain points raised in the U. G. C. pamphlet are also given (vide summary of recommendations.)

Conclusion:

The above observations and recommendations are based purely on the author's personal experiences and observations as a subject of the two extreme types of examinations and as a teacher at diploma, undergraduate and post graduate levels during the past eleven years. These recommendations obviously have to be viewed in that perspective and hence require further research oriented investigation to be given proper shape for implementing.

If these few lines could kindle some thinking among teachers and educationists and culminate in specific recommendations this article could have served its purpose.

Appendix:

Summary of recommended reforms:

- 1. The system of sessional or continuous assessment along the liness of U.G.C. recommendation should be applied immediately to the practicals at all levels because it will be possible and also its merits apply with greater force in the care of practical examinations.
- 2. The weightage given to a practical subject in the final result

should be in keeping with the importance the student is expected to give it and in subjects where theory as well as practical are involved, the relative weightage to theory and practical should be apportioned to reflect the relative importance of the theory and practical in the context of the whole course.

- 3. The practical should be delinked from theory for purposes of declaring results, classes, or distinctions.
- 4. A student failing in a practical examination should be given a chance to repeat it immediately rather than wait for another six months as is done now; perhaps the number of such chances may be limited to (say) three.
- 5. The 'question bank' idea should be introduced for practicals immediately.
- 6. Drawings should be treated as practicals and examinations conducted accordingly.

General:

7. Instead of appeals committee, the head of the department himself should be given the responsibility of allotting a student to a

different tutor in case he is consequtively getting poor marks in a series of internal assessments in a particular subject.

- 8. In addition to the student's individual marks, at least the class average in that test should be compulsorily shown in the marks card.
- 9. The existence of highly centralised competitive examinations and the importance given to them has got a greater crippling effect on education than the much criticised traditional external examination; as a matter of fact, the external examination gets distorted under the shade of competitive examinations. concept is to be given up forthwith, (admission to higher courses should be based purely on merits as decided by the candidates' performance in their qualifying (basic) course. In cases where it becomes necessary to screen the eandidates because limited availability of seats, ways and means should be devised to make such screening processes above board and making it compulsory for the screening committee to announce the 'marks' secured by the candidates before the next batch is taken up for the process, thus giving no time for manipulations and thus no room for suspicions).

To gild refined gold, to paint the lily,
To throw a perfume on the violet,
To smooth the ice, or add another hue
Unto the rainbow, or with taper light
To seek the beauteous eye of heaven to garnish,
Is wasteful and ridiculous excess.

Shakespeare, King John, IV ii 11-16.

A Plea for Spiritual and Moral Education

By
Shri Raghunath Safaya,
Chandigarh,

LL educational endeavours are directed to some end, purpose or some goal. The goal may be to make life happier, to elevate man to intellectual heights, to pour in more and more knowledge, to accelerate the advance of civilization or to lead the human society to bliss. goals vary from society to society. The variance in the goals directly corresponds to the variance in the basic philosopny of life pursued by the societies. In words of Dewey. education is the dynamic side of philosophy. The educational system in vogue today in different societies are related to their philosophy of life.

Our ancient education catered for the fulfilment of the highest aims of life viz. 'self-realisation'.... It had its fountain-head in the vast spiritual ocean of the Upanishadic and the Buddhistic philosophies. Priority was given to the teaching of spiritual and moral values... Wealth and worldly welfare or the fulfilment of desires and were subservient to and Moksha.

But today we find Dharma and Moksha totally neglected. These find no place in the educational institutions of secular India. The protagonists of secularism condemn the inclusion of religions instruction in schools. Perhaps they believe that religion

has no place in the present age of science and reason. Their conception of religion is that it is something that abounds in supernaturalism, superstitions, orthodoxy, prejudices, casteism parochialism, mythology and irrationality. They are apprehensive of conflicts based on religious antagonism which pervades the whole history of mankind. Following the policy of 'let the sleeping dogs lie', they want to keep aloof from religious entanglement, and to see that peace is not disturbed. others have firm belief that religion is a hoax, a myth and a fraud. They agree with Karl Marx that 'religion opium of man'. Agnosticism, Dialectical Materialism. Pragmatism and Hedonism may not favour the growth of any religion.

But are the above views wellfounded? Is religion really a nasty element in human civilisation? all the spiritual doctrines hoax and Advancement of Science in the West did create distrust in religion and spiritualism. But this is a passing phase. There is growing consciousness in the West also that beyond the mundane existence, there is some super-natural element governing the Universe. A number European philosophers have directed revolt against materialism.

A number of scientists are perplexed at the complexity of the universe

around us. The two world wars have challenged the fate of human destiny. The invention of nuclear weapons have simply assured the total annihilation of mankind. In such a climate of insecurity, religion is the only saviour. It is the stress on religions and spiritual values that can bring peace and harmony.

The responsibility of preaching moral and spiritual values definitely devolves upon India, for India has had long tradition of spiritualism. In the past a host of spiritual saints and sages like Mahavira, Sidhartha, Valmiki, Vyasa, Badrayana, Shankara, Ramanuja, Dhyaneshwara. Kabir. Nanak, Tulsi. Surdas. Rama Tirtha, Vivekananda, Tagore, Gandhi, Maharishi Raman, and Aurobindo Ghosh has kept the lamp of spirituality burning. India has inherited from them a vast treasure of spiritual wealth. They have explained that the ultimate destiny of human soul is spiritual rather than material. Matter is subservient to soul as machinery to power. As summarised by Sir Radhakrishnan, "The fulfilment of man's life is spiritual experience in which every aspect of man's being is raised to its highest point, all the senses gather, the whole mind leaps forward and realises in one quivering instant such things as cannot be expressed." It is in this direction that human personality will grow and develop, with its powers and abilities reaching the fulfilment and the maximum stature or the stage self-realisation dawns forth. realisation' is not a new concept in India. But it is going into oblivion due to the impact of westren thought and civilization, though west itself is approaching the Indian Standpoint. It was in the last century that the philosopher Schopenhaur declared that India would lead a spiritual revolution—'The world is

about to see a revolution in thought more extensive and more powerful than that which was witnessed by the Renaissance of Greek Literature'. Max Muller, another western thinker gave his verdict—

"If I were to look over the whole world to find out the country most richly endowed with all the wealth, power and beauty that nature can bestow, I should point to India."

"If I were asked under what sky
the human mind has most fully developed some of its choicest gifts, has
most deeply pondered over the greatest problems of life, and has found
solution of some of them which will
deserve the attention even of those
who have studied Plato and Kant I
should point to India."

"And, if I were asked my self from what literature we here in Europe who have nurtured almost exclusively on the thoughts of the Greeks and Romans and of the Semitic race the Jewish, may draw that corrective which is most wanted in order to make our inner life more perfect, more universal, infact more truly, human, a life not for this life only but a transfigured and eternal life, again I should point to India." the same context the world famous American historian Will prophesies-"India will teach us the tolerance and gentleness of the mature mind, the quiet content of the unacquisitive soul, the calm of the understanding spirit, and a unifying. pacifying love for all living things. 'If such Western Stalwarts make bold statements like the above. Tagore is not wrong in declaring "Perhaps that dawn will come from the horizon, from the east where the sun rises."

In such a context, should we Indians even now have doubts about the validity of our spirtual foundation?

(Turn to page 65)

Internship of the B. Ed. Students

By

Shri K. Satyanarayana,

Formerly Principal, Govt. College of Education, Nagarjuna Sagar.

I. Student-Teaching Vs: Teaching by Trained Teachers:

HESE two are apparently antithe. tical. We must endeavour to adapt the needs of the schools to the resources of these two types of teachers in order to bridge the gulf-between the theory of Education taught in Training institutions and the teaching practised in schools. The student teacher seeks to teach mostly with an emphasis on certain formalised methods and procedures and therefore his lessons are mostly method-oriented and are too formal and relatively less mature with more superficiality. But the trained teacher seeks to teach mostly with an emphasis on (i) covering the syllabus and (ii) meeting the requirements of the examination system and therefore his lessons are, by and large, examination-oriented and are too utilitarian and are relatively more mature with less superficiality. because their professional resources, and their professional background in teaching are widely divergent. the best, we may endeavour to direct the student teaching to serve the purpose of assisting the trained teacher in his manifold activities of instruction, and thereby help him improve the quality of his instruction bridging this widening gulf. manifold activities are:

- a) Preparing an enrichment material on the course content with the help of reference books and Journals.
- b) Preparing and improvising instructional aids,
- •) Giving more individualised attention to pupils' activities,
- d) Correcting pupils' written work.
- e) Evaluating pupils' work on the modern lines.

II. Purpose of Internship:

To assist the class room teacher in his professional activities and there by help the trainee get an insight into the intricacies of teaching.

III. Organization:

The trainees may be interned either teacher wise or class-wise. Whatever be the basis of internment. the trainee is expected to teach and assist the school teacher towards the cause of education in the school. Internment definitely disturbs the routine of the school and this disturbance should, be minimized unlike the one caused in the stray lessons provided under practice teaching. This can be done as each trainee is expected to teach only 5 lessons in each of his two school subjects during the period of internship for 15 works ing days.

IV. Practical Problems:

We have 155 trainees to be interned from our college. There are 21 sections in all the Secondary and Upper Primary schools in N. S. Project area; we may therefore intern the trainees at the rate of about 7 to 8 trainees per section. If we adopt teacherwise internment, we may intern inservice teacher candidates to the trained graduate teachers and freshers to the other teachers of these schools.

The following problems should be therefore met in providing internship facilities at the above schools:

- a) Dates of internship are to be fixed.
- b) Each trained teacher should allot (teaching work as well as nonteaching work in his classes) to the trainees attached to him for internship.
- c) The training college teacher also should go round the schools to supervise the lessons of the trainees in his subject.
- d) The lessons to be taught by the trainees during this period should be planned as parts of one or two Units so that they are acquainted with preparing year's plan, unit plan and lesson plan as well as Unit Test.
- e) The trainees should administer one unit test in each of his school subjects, whose results should be studied later in closer detail as per the University requirements after the internship is over.
- f) The work schedule for the 15 days is to be drawn up.

V. Guide Lines:

These may be evolved in the light of the ideas that emerge out of the discussions between the Training

college and the school personnel. To make these discussions more broadbased, it is suggested that a conference may be held with the following persons to discuss the issues relating to internment, before the internship programme is implemented:

- a) Method masters of the college of Education.
- b) Headmasters and senior teachers of the practising schools.
- c) Student repersentatives such as the Vice-president, the General Secretary, the Joint Secretary, the Games Secretary, the Fine Arts Secretary, and the S. S. League Secretary, and the Secretaries of all the Methodology subjects.

The Inspectorate too may be associated with the above Conference.

Approved by all the D. P. I.'s

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Practice Teaching — Its Supervision

By Shri Shamsuddin,

71150, Baijnath Para Raipur, M. P. India.

THE efficiency of a school system depends much on the type of teachers we have and the way the teachers' colleges train and equip them with to handle the children in the class rooms. Therefore, practiceteaching is considered to be the most significant part of the programme of teacher education. It plays an important role in shaping the types of teachers required for our schools. However, the success of such a programme will largely depend on how effectively the student-teacher has been guided and supervised by the supervisor in class room teaching.

In view of the increasing number of student-teachers, varied subjects offered by them for practice teaching, limited number of teacher educators on the staff of teachers' training colleges and the practising schools situated at distant places, supervision of practice-teaching has become a challenging task in teachers' colleges today. The main problems which need our attention today are—who should supervise, when to supervise, what to supervise and how to supervise during practice-teaching programmes of student-teachers.

As regards the question 'who should supervise', there can be no two opinions on the point that the staff of teachers' colleges is the best

suited to undertake the task as they are fully conversant with the upto date techniques and methods of teaching school subjects. But the



question arises who from amongst the staff should be entrusted with the work? As regards the college staff, there are Professors, Assistant professors and Lecturers constituting the gazetted staff as well as teachers and craft instructors also. If only gazetted staff is entrusted with the job, he or she has to supervise sometimes ten to twelve student-teachers at a time. If the help is taken from the non-gazetted staff, the question of indiscipline comes up as sometimes senior and highly qualified teachers as well as lecturers are required to teach under them. Also the Teachers' College staff is required to perform a number of other activities such as research work, conducting seminars and workshops, and inspection of institutions etc. Under the circumstances, can the supervision work be done efficiently and effectively by them alone specially when practising schools are far scattered in the town consuming much of their time and energy.

The possible solution of this problem lies in taking help from the senior experienced and qualified teachers, from the staff of practising schools and they may be named as cooperating teachers, who can be of great help in carrying out the supervision work successfully. Thus, the gap between the theories learnt in a teachers' college and the practices followed in schools will be eliminated. Then the cooperating teacher, being the subject- teacher also, will have no complaint against non-completion of courses. His presence in the class will solve the problem of indiscipline also and thus there will be full cooperation and coordination between teachers' college and the practising school which will go a long way in making practice-teacher programme effective and fruitful.

However the points to be considered are who should be appointed as a cooperating teacher? What should be the criteria for his selection? What should be the motivation given to him for doing extra work of guidance and supervision? How should the coordination between the work of supervision by the college staff and the cooperating teacher be established?

These are some of the problems on which the learned teacher-educators may have controversial views. Hence, it is the duty of the scholars and the

intellectuals in the country to put their heads together and think collectively on the above mentioned important issues to find out the solution.

Another question is 'when supervise' the practice teaching. Generally the periods of first half of the school timetable are taken for practice teaching. The college teacher remains there from 11 A. M. to 1-30 P. M. During this period he has to supervise three to four student teachers in each period. Naturally he can not supervise the student-teacher's teaching for the whole period. Therefore, for example, when he writes the criticism. 'No black board summary was prepared', the studentteacher comes forward in the guidance period and says 'Well Sir, when you came I had already rubbed it off or I prepared it when you left the class.' Such things can be avoided if help of a cooperating teacher, who will remain in the class throughout the period, is sought.

The third question is 'what to supervise?' The supervisors should decide among themselves what points of lessons should be supervised by them uniformly. Otherwise it so happens that one supervisor all his attention on the context part of the lesson while another man supervises only the method and technique followed by the student-teacher. Some concentrate on teaching only and neglect other aspects such as student-teachers' behaviour and attitude towards pupils, his general appearance, building rapport with students etc. A suggested basis of supervision may include the following points:

1. The lesson plan - objectives, suitability and quantity of the constent, method and technique followed, accuracy of matter and language.

- 2. Class work-reading, questioning, exposition of subject matter, narration, black-board work, use of teaching aids, stimulating pupils for active perticipation in teaching-learning process, class control and discipline.
- 3. Teacher's personality his appearance, voice, dress, manners, preparation of subject matter, his ability to adjust, adapt and command in the class.
- 4. Teachers behaviour with students and attitude towards teaching, his rapport with the pupils and his general influence in the class.
- Again the procedure as to 'how supervise' should be clearly formulated. In fact no uniform pattern in this field can be introduced as each supervisor has his own ways and methods of supervising the teaching work. However, a line of approach and the objectives to be achieved can be determined to the advantage of all in general. Following are some of the points which should be borne in mind by the supervisors:—
- 1. The supervisor should be punctual and regular in attending the practising school in order to detect unpunctuality and irregularity of student teachers.
- 2. The supervision should not be based and should be done as objectively as possible.
- 3. He should not generally interfere when the student-teacher is teaching. He should wait till the student-teacher comes out of the class or meets him in the guidance period.
- 4. The defects and draw backs may be painted cut first orally and if not removed by the student teacher,

the remark to that effect may be entered in his evaluation card.

- 5. While pointing out defects, some good points, if any, should also be taken note of and given as appreciation to encourage the student-teacher.
- 6. The supervisor should not indulge in too much praise or too harsh condemnation of the work of student-teacher.
- 7. The criticism should be constructive suggesting ways and means to improve. If necessary, demonstration, too, may be arranged.
- 8. The freshers should be encouraged in the beginning.

Lastly, the continuous evaluation of the performance of student-teacher should be and the gradation may be brought to their notice. The judgment should be fair and balanced. For evaluation purpose following proforma as evaluation card is suggested to be filled in for each lesson.

(See Third Cover)

Every lesson of the student teacher should be assigned a grade on a 12 point scale for example A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D-. Here G indicates, 'average or 40%, D means 'poor' and D-means very poor. Finally all assessments should be pooled together and marks be given out of 100 for university assessment.

This form of evaluation will keep student-teachers informed about their day to day progress and will enable them to make improvement. The gradation will give them an idea of their performance while actual numerical assessment may be kept confidential for purpose of university examination.

(Turn to Third cover)



Teacher Education in the context of New Pattern of Education:

THE New Educational Pattern, popularly known as 10+2+3 has got wide recognition and appreciation from all quarters of society, particularly from educational planners and teachers. Even the vehement critics of the system appreciated the merits and benefits of the system.

igned to become relevant to both individual and society with the introduction of new system. It will become more productive rather than educative, in the real sense of the term. Education has to play different roles at different stages. The general education along with some vocational education will be provided at the first stage upto ten and more extensive and intensive part of vocational education will start at + 2 stage, the most crucial and controversial stage in the whole system.

THE newly adopted system will certainly curtail the mad rush to admissions into the Universities. Only those who possess aptitude for higher learning will be encouraged to enter the portals of universities and such other institutions of higher learning. It will help improving standards of higher education. The problem of unemployment, particularly

among educated ones, may be reduced to a greater extent. As a result of it, various psychological ills, developed by youth during the period of unemployment, can be prevented. It is also claimed that the principle of equality of opportunity can be easily realised through the implementation of new pattern. In this way we can achieve the twin objectives of education i. e. the national development and social resurgence.

IT is an accepted hard fact that nothing can replace the resource-fulness and dynamism of a teacher. But how far the present system of teachers's training is creating resourcefulness and dynamism in the pupil-teachers.

A careful investigation into the present system of teacher education will reveal that the present curriculum is miserably inadequate to prepare the teachers who are well groomed for achieving the objectives of new pattern. The new system requires every teacher to have adequate knowledge of some vocation. Very few training colleges have the provision and facilities to train their pupil-teachers in different vocations. They are, therefore, not mentally and physically prepared

to take up any sort of practical work.

SINCE each child is in itself an entity with special aptitudes, those aptitudes have to be located by the teacher. The children have to be advised and encouraged in the light of their aptitudes and talents. The teacher will create in them a desire to a particular course or trade. If it is not done in a scientific way the basic purpose of the scheme will be defeated. As far as our knowledge goes there has been no emphasis on equipping the teachers for this job during their training courses. Of course, he is made aware about names of various tests and techniques in the paper of psychology that carries them nowhere in the practical field.

A dichotomy has been already existing between theory and practice marring the quality of education. Teachers face great difficulty of translating theories into practice in actual conditions of work. It will further deteriorate under the conditions of the new scheme if present programme of teacher-education continues to work on the same lines.

ONE of new pattern is its emphasis on community work, social service activities, cultural activities, co-curricular activities and activities of rural reconstruction. The findings of research studies related to these fields revealed that such activities do not get much attention and importance in large number of training colleges. The reasons for this neg-

lect are heavy curriculum, shor^t training period, inadequate unds and equipment.

UNDER the new scheme more teachers are required who could look after hobby clubs, science clubs-cum-work shops, vocational guidance bureaus etc. To handle these workshops competent and skilled teachers are needed. The present training programme has no provision for training in such skills.

The mushroom growth of training colleges should immediately be stopped. Most of the private colleges of education seem to be run solely for revenue purposes. They are not yet earnest in the quality of education. They are averse to new innovations and ideas. They do not adopt them because it amounts to more expenditure which is against their basic philosophy. They engage medium staff. One cannot expect of such colleges to produce quality-teachers. By putting a check on such colleges we can prevent the production of unmotivated, disinterested and inefficient teachers.

- 2. The duration of B. Ed. course may be extended to two years.
- 3. The contents of compulsory papers should be critically evaluated and the contents which are found to be redundant in the present context should be dropped and replaced by more relevant and useful ones.

- 4. It should be made compulsory for each pupil-teacher to offer at least one vocational course. Thus it will become inevitable for colleges of education to introduce as many vocational courses as possible. Vocational courses should be based on the market value and the principles of correlation.
- 5. Each training college should be well-equipped with a psycholigical bureau where pupil-teachers may be provided adequate knowledge of psychological tools and techniques.
- 6. Co-curricular activities should be organised in such a way as to provide the pupil-teachers healthy social experiences which can inculcate in them a spirit of self-less service.
- 7. Practice Teaching is an area which is generally treated as superfluous and extra by most of the training colleges. Such praetices as capsule courses being organised in Kashmir have further deteriorated the quality of education. teacher Teaching practice is the essence of teacher's training. It should be the strongest link in the whole scheme of teacher education. The scope of teaching practice should be clearly defined. It should include the preparation of yearly plans, time tables, maintenence of records, construction and administration of tests, evaluation and organisation of co-curricular activities. Internal assessment should cover all the aspects of teaching practice.

8. The pupil teachers should be exposed to various methods and teachniques of teaching. More and more use of tutorials, discussions, seminars and paper-reading will help them to be resourceful and self-sufficient in many academic matters.

This kind of extensive training is not possible in one year duration. Hence the suggestion to extend the duration. The two year duration will provide them an opportunity to know the worth of practical and community work. Moreover it will help them in bringing about the attitudinal changes towards the profession and society.

According to some educators the new pattern of education is a challenge. It can be accepted and faced only with the help and co-operation of well-trained and competent teachers.

- Hamid Hussain.

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A Plea for Spiritual and Moral Education (Continued from Page 56)

Can we afford to sacrifice so easily our spirtual heritage at the altars of Western materialism? Is it not a retrogate step to lose soul in order to gain matter? Day by day science is approaching religion, Even on the plea of following science, we have no reason to hate true religion. In fact there is no antagonism between science and true religion. What is scientific mind? It is nothing but unbiassed, objective enquiry and judgement. True religion is not opposed to it. The intellectual and rational attitude needed for science. is also needed for religion. Both true religion and science are opposed to prejudices, superstitions, orthodoxy, dogmatism and blind faith in ritualism. The real aim of religion is to raise the humanity to higher ethical plane. Its real purpose is to make man truly civilised, cultured and refined. Swami Vivekananda commenting upon the same instructs-- "The goal is to manifest the divinity within by controlling nature, external and internal. this either by work or worship or Psychic control on Philosophy - by more or all of them - and one or be free. This is the whole of religion. Doctrines or dogmas or rituals or books or temples or forms are but secondary details." All conflicts that arose in the past were due to the narrow dogmas and rituals. There is a universal element in all the religions of the world. True religion teaches ethical values. In words of Swami Ranganathananda, "By realising ethical values in increasing measure, man achieves a largeness and fulness of being and overcomes taint of worldliness while living and working in the World". There is no denying the fact that man's true welfare is basically spiritual, and material and social

welfare is but a means to that end. Thus the conflict between science and true religion is ill-founded. It is the narrow loyalty to a particular sect or dogma with an attitude that is parochial and communal, which may be deemed against the spirit of the modern scientific age. "The sectarian spirit of religion is mainfestly antagonistic to the very spirit of modern times which is scientific through and through, and which appeals not to sects and sections but to humanity at large." True religion free from dogmatism is the dire need of the day. A nineteenth century Oxford Theologian once remarked.....

"History without God is a chaos without design or end or aim. Political economy without God would be a selfish teaching about the acquisition of wealth, making the larger portion of mankind animate machines for its production. Physics without God. would be but a dull enquiry into certain meaningless phenomena. Ethics without God would be a varying role without principle, or substance, or centre or ruling hand. Metaphysics without God would make men his temporary God, to be resolved after his brief hour here into the nothingness out of which proceeded." We want religion to combat the social and political evils, to ensure harmony and peace, and elevate human soul to its spiritual heights. The extinction of the present-day social evils in our country can be effected only by the teaching of ethical and moral values which are foundations of true religion.

The above discussion was started only to emphasise the need of propagating ethical and moral values of life. It must be borne in mind clearly that all forms of human associations, from the family to the international community depend upon the ethical education of the individual. In any

sound educational system, ethical and moral development of the individual should be given the first priority. Consequently the aims of our national system of education must be re-defined, so as to cater to the moral and spiritual development of the individual. Hence the state - secularism. which is purely a political dectrine, should not interfere with the moral development of pupils. Education may be secular in character to the extent that no rituals of any religion are taught and no proselytising is done. The fundamental principles and ethical doctrines of all religious being the same, the difference being only in the details of worships, there is no difficulty in preaching a Universal Religion to all the pupils in an unprejudiced Manner. In words of Swami Vivekananda, "Holiness, purity and charity are the exclusive possessions of any church in the world and that every system has produced men and women of the most exalted character". Our pupils will be immensely benefitted by relating before them the life histories of such religions. saints and sages. We can teach them the principles taught by such religious leaders and prophets.

In incorporating religious and moral instruction in our educational programme, there are some constitutional hitches. But the Committee on Religious and Moral Instruction headed by Sri Prakasha which was appointed by the Union Ministry of Education, in their report have suggested clear-cut methods of avoiding constitutional difficulties. The Committee has emphatically suggested the inclusion of a regular course of moral and spiritual education throughout the educational ladder and at all the stages.

A detailed programme of such course is yet to be prepared. It is high time for teachers, educationists, educational administrators and others connected with education to chalk out a detailed programme, and prepare a thorough plan as regards the suitable text-books, methods of instruction, activities, teaching personnel and various aids. A full programme of moral and spiritual education needs to be implemented in all the educational institutions in the country on a uniform scale. Indian Education Commission has duly emphasised the inclusion of spiritual and moral aims, but the details regards ding the implementation are wanting.

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ARTS-SCIENCE STUDIES AT AN ENGLISH UNIVERSITY

By MICHAEL BROWN,

Director of Arts-Science Scheme, University of Sussex, England.

The description of the interdisciplinary studies at one of the newer universities must as much consider the political, economic, historical and educational context as any other kind of studies and as much as at other newer universities (or polytechnics) or more established ones.

The educational system in Britain had had, up to 1970, only 100 years of compulsory provision of "elementary" public education. For most of that period the education was provided for a majority of pupils who could be considered to require, by the time they were aged 14, only enough literacy and arithmetic to support the relatively small number of very highly educated professionals of Church, army and state. Certainly, for the female section of the population the arguments against contiwere (and education often still be) even stronger than for boys.

During the 1950's, however, there was agitation over every sector of the educational system: the need for newer course content and facilities even for those leaving school at 15, the revision of the content of the almost exclusively preuniversity courses at sixth-form level and widening of the sixth form to provide more students for both university and technical and further education, and the need for more places in higher education to deal with the needs of an advanced technological society were all part of that agitation.

Validity Questioned:

Teachers at every level queried the validity of the content of courses, the aims and objectives of the teaching processes and employment needs. To add to this list the concern during the 1960s with technological, medical, administrative, social welfare, nursery, infant, adult education, and the Open University can give but the merest indication of the climate within which it has been possible for a newer university to develop and interact with society.

When Sussex University was being planned in the late 1950s, all of the previously assumed functions, organisation, courses, teaching, assessment and employment prospects of its graduates were called in to question. For whom should university education be available? How large should a university be? How should one choose the "subjects" or disciplines to be taught? (Indeed, should certain universities concentrate on certain subjects?)

How should the students learn their subjects? By lecture (claimed to be impersonal, tedious, unconducive to critical thinking and often irrelevant to the Final examination questions); by tutorials (and might they have all the answers to all educational and social problems of all students?), By seminars?

How might one reduce the rate of "fall-out" among the student population, especially when the system in Britain was already, globally, the most

highly selective in its intake through the school examination system? How might one take account of contemporary knowledge, skill, insights, disciplines? How might the student change his options when some experience at university showed some new opportunities not evident at school?

Finally how would one judge that the concatenation of all these and other judgments would in fact enable a student to achieve a level of confidence in his knowledge and skills, in whatever field, which would also be acceptable to employers whether industrial, commercial, technological, or government?

Two Apparent Defects:

In all this, perhaps the two most generally discussed issues at that time were those of too early specialisation to either arts or sciences leading to ignorance of many facets of the intellectual field and the concentration at undergraduate level on a single subject, whether in arts or science, for three years. Some of the major concerns, therefore, involved ways of counteracting these two apparent defects in the education of graduates.

The pattern of careers emerging in the 1950 s, combined with a very different international position for Britain, further stressed the need for wider experience during the undergraduate career; a science graduate might now consider not only research (whether in government agencies, university, or industry), but also teaching, scientific journalism, publishing, broadcasting.

So perhaps while providing, say, a common kind of science core for a course it might be set side by side with courses in education, intellectual history or economics. Several studies in the 1960s of actual jobs being performed by, say, science graduates, revealed the recommendations that the science degree should be widened to introduce some awareness of communication skills, social interaction and economic aspects of science.

Many universities, older as well as newer, established courses in those years in which students might meet more than one discipline, some in major ways and others to a minor extent.

Different universities produced different arrangements. Keele University pioneered efforts to allow students time to achieve a broad perspective through a "Foundation Year", meeting new subjects, or old ones, in a new, university context, as well as allowing mixed arts-science degrees.

Unfortunately, this degree required Four years and in the English university system this is not welcomed financially. Birmingham University, which allowed various combinatons of subjects, established further its "Interfaculty Studies" which enabled science and arts students to join in the study of some such theme as "Communication."

Experiments

York University allows a variety of combinations of sciences with each other as well as of some sciences with some arts or social science subjects; and education can be taken at the undergraduate level. At Exeter University experiments were tried of combining a science with politics.

However, these "interfaculty" studies tend to involve two concurrent courses taught by separate faculties and inevitably suffer from difficulties of agreement on aims, on the time needed for the separate disciplines, not to mention plain suspicion. A somewhat different approach was instituted at Manchester University which established an interdisciplinary course in the Liberal Studies of Science which combines a science core with studies of historical, social, technological, economic and philosophical aspects of science.

It is clear that many problems exist in these efforts to widen the intellectual experience of the undergraduate, perhaps the main one being the seperateness of the strands of experience. It is not better to deal with problems which, by their nature, require two or more different disciplines for their solution?

The advantages of such inter-disciplinary studies might be the required widening of experience, development of respect for other kinds of discipline, working in a variety of groups (whether these be of students, of tutors or even people in industry) and involvement in teaching methods of differing styles: while scientific knowledge may be characterised as necessarily "public", many a science student at present learns his science through lectures, which does not necessarily allow him to be at all publicly confident of his knowledge!

Effect On Student

But how shall a student meet interdisciplinary studies and problems? Is it "best" to meet the separate disciplines in sequence? (Do they interact in the student's mind in the most fruitful way and at the right time when done this way?) Can they be met concurrently? Should there be some kind of pattern of sequencing? (Or do we now begin to realise that different patterns of learning may suit different students and they should determine, to some extent. for themselves when they feel ready to tackle or require the other disciplines?

Shall they learn all the time, traditionally as individuals, or is there a need for group participation by students with different specialism? Can their learning be through "games" and simulation? It was long argued that undergraduate students are not "mature" enough for interdisciplinary work, for example in education or history of science. But it is evident that students are very aware of problems in their own education, in their social situations and the political issues of their own times.

There have been many science students who, given the opportunity, have wished to study the rise of fascism and Nazi Germany or the organs of the Greco-Roman civilisation and hence of European thought through to-day. Any opposition to students doing a variety of disciplines because they are "irrele-

vant" begs all the questions of relevanceto whom is it relevant — teacher or student? When is it relevant — only at the end of a lifetime or during the three years of being an undergraduate? For what purposes —only a particular highly specialised and highly selected research careerist?

Cultural Too:

As with the science students mentioned earlier so it has been possible to show arts students who, for example, have studied Pascal as moralist that he had an important part also in the scientific revolution in the 17th century: his critique of Aristotelean science was cogent in France as that of Robert Boyle was in England.

So it is necessary, if interdisciplinary studies are to have meaning for students, for them to involve problems which are interdisciplinary. These may be cultural, intellectual, environmental, technological, educational, social, scientific; and in deed tend to centre on human beings and will not be split into conveinent, simple categories for the researcher.

Opposition to interdisciplinary studies, no less than to multidisciplinary ones, stem from many directions and have greater or less force of argument. For example, if one requires university students to analyse deeply the nature of knowledge of a particular kind, its validity, to explore the range of problems that a single discipline deals with; then how is there time for this to be done satisfactorily in more than one discipline?

At Sussex University this problem was compounded further for the arts student: if one required him to study science "properly" how could there be time, when it takes a science student all his time (whether it should or not is another question); and when in any case he, the arts student spends only just over one-half his time on a major arts subject?

The difficulty of launching interdisciplinary studies is evident at every level: once a timetable has been established for one set of courses and staff appointed then the only way, apparently, of establishing new patterns of study (content and teaching method) is to establish a new institution altogether!

At Cambridge, in the 1950s, a Part II Tripos science course for arts students was rejected; in Oxford a Human Science course was outvoted on the first occasion; at Cambridge this year, a proposal to include sociology, psychology and economics in the medical degree was turned down.

Supercilious

English universities have been notorious in their supercilious attitude to educational studies, both within their own institutions and more especially towards such studies in their affiliated teacher-training institutions.

At the school level the Nuffield programme of Physical Science which combined physics and chemistry through the theme of structure and properties of matter was steadfastly rejected by one university's chemistry department; while the very recent Schools Council Integrated Science Programme (which includes comparative methodological studies of physical, biological and social sciences) has met considerable opposition from some employers.

The opposition to such new interdisciplinary courses is frequently on the generalised and unspecific grounds that do not meet the needs of "education", "intellectual standards" or employers: yet the mere fact that they have been developed and supported bears witness to the difficulty of deciding how arguments have force in the educational field.

In its answers to these problems Sussex University adopted an approach to the content, organisation of studies and teaching processes which led to the establishment of "Schools of Studies." Within each of a variety of such schools the undergraduates would spend the first two "preliminary" terms adjusting from school to both new knowledge and skills and to new ways of learning and

studying (as well as new ways of an independent adult life).

After that the student spends just over half his time on a major subject such as history, politics, sociology while the reminder is spent with students from different majors but studying several courses which are characteristic of the School of Studies and which are interdisciplinary.

For example, in the School of Afro-Asian Studies one such interdisciplinary "contextual" course would be involved with the development problems of these countries; in the School of Cultural and Community Studies such a course would be "Artist and public"; in the School of Social Studies there is a course on "Concepts, Methods and Values in the Social Sciences"; in the School of European Studies the course entitled "The Modern European Mind" provides a study of the key ideas of the last century which have shaped the way Europeans think about nature, man and society.

Contemporary Knowledge

The School of English and American studies provides a contextual on "contemporary British." Through this organisation, with students based in a School of Studies, the university has attempted to provide a way of presenting knowledge to students which would de contemporary in much of its content, would through tutorial and seminar teaching methods involve students in active learning situations and would indicate finally how different disciplines might be brought to bear on some complex problems.

Clearly, however, while each school of studies provides a "map of knowledge" it is not intended that the student should see this as merely the new dogma but rather it requires him to seek out the paradigms for such maps of knowledge, construct his own and find what might be of relevance to himself and for whatever reasons.

This pattern of studies has been well developed for the fine arts and social science Schools; however, for the four science schools (Applied Science, Biological Science, Mathematical, and Physical Science, Molecular Science) the overall pattern was not established, although its emergence has now begun with pressures from students and faculty to put the science courses in context. This development is also more likely if expansion allows for new science schools.

Within the undergraduate gramme generally, at Sussex a variety of ways exists through which students can participate in interdisciplinary studies. The "contextual" course has been outlined above and is intrinsic in the structure of schools of studies. However, tother courses throughout the university enable interdisciplinary studies: for example, some biologists take their major biology courses in conjunction with contextuals in the School of Cultural and Community Studies and can thereby build up a human context for the biology; some physicists and mathematicians take courses in logic and philosophy or in historical and social studies of science.

There are differing weights of courses that can be taken, some being about 50%, some about one third and some only about 10% of the time. In an attempt to enable science students to meet human problems they are required to take courses in arts and social studies: some of these are of the one-third weighting variety and include education, economics, history and social studies of science, but the majority take one of a number of options which amount to a year's study leading to a dissertation submitted for the Final degree.

Optional Courses

Arts schools of studies now provide science study courses as options among the "contextual" courses and appropriate to their own concerns, for example the development of science in Europe and its impact on man's view of himself is apposite for students in the School of European Studies.

Certainly, if the expansion of the university had not been restricted during

the current and next quinquennia the new schools of studies based on a mixed Science-arts or Science-social Science nature would have been instituted.

But even without starting whole new schools of this type, many new teaching and research groups have been established in such interdisciplinary areas as bio-engineering, environmental science, linguistics, communication, operational research; and the future development of a medical school will add greatly to to this list.

In all these developments the university endeavours to maintain some interaction between the arts and science as its contribution to the second of the important educational issues prevalent at its inception.

It is crucial to an understanding of the development, role and effectiveness of the many different varieties of interdisciplinary studies at Sussex to realise that all educational institutions are specific in their characteristics, irrespective of their generic name.

Thus at Sussex the interdisciplinary studies, even allowing for all the difficulties of liaison between tutors and the often apparent disconnectedness of the disciplines in students' minds, are supported throughout the university by tutors who themselves teach into a variety of courses, some of "traditions", single-discipline kind and some interdisciplinary.

For example, psychologists and sociologists may teach their separate subjects to separate groups of majors, but both teach one common group of students who are taking the interdisciplinary education courses. The education courses for science students explicitly calls for an analysis of their ongoing undergraduate science education so that, again, there is an attempt to avoid parallel, unrelated courses.

Research Units:

Similarly, many faculties are engaged on research which is essentially interdisciplinary or work in research units whose problems are necessarily interdisciplinary, for example the Science Policy Research Unit, the Institute for Development Studies, the Centre for Social Research, the Institute of Manpower Studies and several others.

Tutors therefore bring the immediacy of these problems to their teaching. Again, tutors may be working on inter—university projects, as for example in historical and social studies of science. It is therefore necessary to see clearly the intrinsic support available at Sussex in every direction for interdisciplinary studies; there is no special "Interdisciplinary Faculty" or "interfaculty disciplines", just as there is no special faculty for science to arts students or arts to science students.

If these interdisciplinary approaches, these arts-science combinations, are to be considered as models, it would be necessary to see if the current position of an institution already represented any inappropriate transfer of educational values, content and technology.

The paradigms would have to be explicitly analysed and their validity in a new context examined. Would they allow for growth or change within the specifice characteristics of an alternative cultures? Manchester University's "Liberal Studies in Science" course does one set of things, but Sussex does something else also with its Science Policy Research Unit and History and

Social Studies of Science for a wider range of undergraduates.

Clearly, one hopes that in the future many more students will come to recognise, as do increasing numbers of research workers—and as most of mankind does anyway without help from academics—the importance and fascination of interdisciplinary problems.

Respect For Skills:

Courses training them in cooperation with specialists of other skills, respect for those skills and avoidance of the crudely bismissive attitudes (an intellectual arrogance possible peculiar to English intellectual life because of the early rejection of either arts or sciences forced on pre-university education) will undoubtedly increase.

The emergence of more clearly recognisable areas of interdisciplinary study is accentuating the need for such students and will itself reduce some of the opposition.

These areas chiefly concern man in his interaction with others in society and with the rest of the physical and biological planet or universe. Each separate discipline must maintain its own growth, vigour and integrity, but also achieve social validity by applying itself to the interdisciplinary problems with man as a key participant—in whatever role.

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(Continued from page 61) Practice Teaching - Its Supervision

This is merely an outline of suggestions, which I humbly put before the readers for deep thinking and wide exchange of views which will lead to far reaching conclusions and drawing out of the guide lines for effective and fruitful supervision of the practice teaching programme in teacher education.

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