Report on the PAC programme titled “Teachers’ Handbook of Transaction of New Biology Textbooks of Kerala at +2 level

Kerala State Government introduced new Biology Textbooks for class XI and XII two years back. The textbooks were written on lines with NCERT textbooks which were also recently introduced. The state books were written based on curriculum and syllabi framed. It was felt that inclusion of certain contemporary areas in the field of Biology was essential to keep in pace with various changes occurring in the field of Biological Sciences. Along with the regular areas like taxonomy, physiology, anatomy, areas of biotechnology, tissue culture also find place in the books. Lot of emphasis is also laid on environmental sciences in recent curriculum, hence several topics of human concern like pollution, conservation of resources are included.

The +2 teachers of Biology of Kerala state experienced little difficulty in transacting new areas in the classroom situations. They felt that there was a need for some input in new areas of Biology to equip themselves to handle classes with ease. In view of this Kerala State Government proposed to organize content enrichment programme and requested Regional Institute of Education, Mysore to organize a training programme and provide supplementary material on topics of felt difficulty so that it can be used up by other teachers also.

An inhouse meeting was conducted to chalk out modalities of the programme, duration, etc. Accordingly, the programme was designed keeping following objectives in mind.

1. To analyse the content of Biology textbooks of XI and XII standards.
2. To identify the new curricular areas where teachers felt difficulty in classroom transactions.
3. To design new strategies or approaches for teaching these areas.
4. To supplement the content areas with hands on experiences wherever possible.

The training programme was held during 13th September 2004 to 17th September 2004. The whole programme was planned to provide adequate training and information through.

1. Lecture cum discussions by the faculty of RIE.
2. Hand on experiences through relevant laboratory exercises.
3. Arranging special lectures by experts in respective areas from the University departments.
4. Visits to institutions, departments where more first hand information could be obtained.

Several lectures and hands on experiences were arranged in the area of haematology wherein teachers could do activities and gain knowledge and skills. Topics in the area of cytology were discussed in depth and doubts were clarified. Teachers would observe stages of cell division. A detailed account of taxonomy of plants followed by experiences in identification of plants, herbarium preparation were given to teachers. Environmental problems and remediation were dealt in detail followed by some common exercises. The latest information about Biotechnology was also provided to teachers by experts in that field. DNA finger printing, technology used, its implications along with human genome projects and the significance were the areas which the teachers needed most. Latest techniques in tissue culture both theory and practical exercises were given to the participants. Computers can also play very important role in teaching learning of Biology. This was convinced to teachers by exhibiting some softwares prepared by teachers and with the readily available ones. Teachers were thrilled to see an electron microscope, its operation and how such microscopes help in detailed study of micro organisms and other microscopic aspects of a cell. Teachers expressed their satisfaction and happiness over the programme as it was a
definitely fruitful exercise and assured that they would make classroom transactions much more rich, meaningful with confidence.

A handbook was also developed which incorporates information about the difficult topics and relevant and sufficient inputs to conduct laboratory exercises with evaluatory procedures.

I take this opportunity to thank NCERT for providing funds to carry out this programme. I am thankful to Prof. G. Ravindra, Principal, RIE, Mysore for his support and encouragement. I profusely thank resource persons from University of Mysore in providing latest information in Genetic Engineering and other latest areas of Biology. I extend my thanks to Head of Dept. of Applied Botany for providing an opportunity for the teachers to observe the Electronic microscope and its functioning. Lastly I thank all my colleagues for their co-operation for making this programme a successful one.

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