



P.K.M. COLLEGE OF EDUCATION

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PROGRAMME PORTFOLIO

DEPARTMENT OF PHYSICAL SCIENCE 2015 - 17



Report of class activities

Batch: 2015-17

Semester-I

The first semester classes for two year B.Ed programme, 2015-17 batch, began on 1st July 2015. In addition to the regular practices/experiences of the curriculum the following innovative practices were organized during the first semester.

ORIENTATION

The class began with the need to understand the significance of asking questions especially in Science classrooms. As a part of this, Malayalam movie titled “101 chodhyangal” was shown in classroom using projector. The movie depicts the importance of asking questions.

SELF EXPOSITION

Self-exposition of the Physical Science department was conducted on 22nd July. Each member of the class introduced themselves, which was followed by a song by Wilson, speech by Liya, funny quotes by Athira and Praveenamol and a comedy skit by Shiji and team.

ASSEMBLY

The morning assembly was conducted twice by the students of Physical Science. The first assembly was led by Athira N and the next was led by Wilson Francis. The assembly included extra activities like: Patriotic song by Shiji, poem recitation by Meera and a quiz on general knowledge conducted by Shiji.

OBSERVANCE OF SCIENTIFIC DAYS OF IMPORTANCE

1. Hiroshima Day

Hiroshima day was observed on 6th August, highlighting the scientific perspectives of Hiroshima and Nagasaki bomb attack. Powerpoint presentation was made by Shiji K.

2. Tribute to APJ Abdul Kalam

APJ Abdul Kalam commemoration was conducted on 30th July. Powerpoint presentation including scientific contributions of Abdul Kalam was made by Praveenamol.

3. Ozone day

Ozone day was observed on 16th September. A poster presentation was made, highlighting the importance of protecting the ozone layer.

CONFERENCES/ SEMINARS/ WORKSHOPS

1. Conference: Science Education 20-50

A conference was held on the topic “Science education 20-50” with Liya T Jose and Wilson Francis as the coordinators. Pre-conference sessions were held on 29th July, discussing about the major challenges to be faced within the next twenty years in the context of science education.

The conference was held on August 1st in collaboration with Physica Scientia: The Physical Science Teacher’s Learning Community. It gave a clear idea about Science education in the next twenty years. The conference gave an orientation for us to become most wanted teachers.

Resource persons:

- 1) Jaim James, Student, Social Science optional, 2014-15 batch
- 2) Ashlin Raj, Student, Physical Science optional, 2014-15 batch
- 3) Akhila C N, Student, Physical Science optional, 2014-15 batch
- 4) Manuraj M, Student, Physical Science optional, 2014-15 batch

The proceedings of the conference was published on 10th August, in the morning assembly.

Photos of Conference ‘Science Education 20-50’





2. Conference: Graphic Organizers: a tool for meaningful learning of Science

A conference was conducted on the topic ‘Graphic Organizers: a tool for meaningful learning of science’ on 19th September at PKM college auditorium in collaboration with Physica Scientia: The Physical Science Teacher’s Learning Community. The coordinators of the

seminar were Praveenamol and Shiji. The theme of the conference emerged from classroom discussion on how teaching can become an organized presentation.

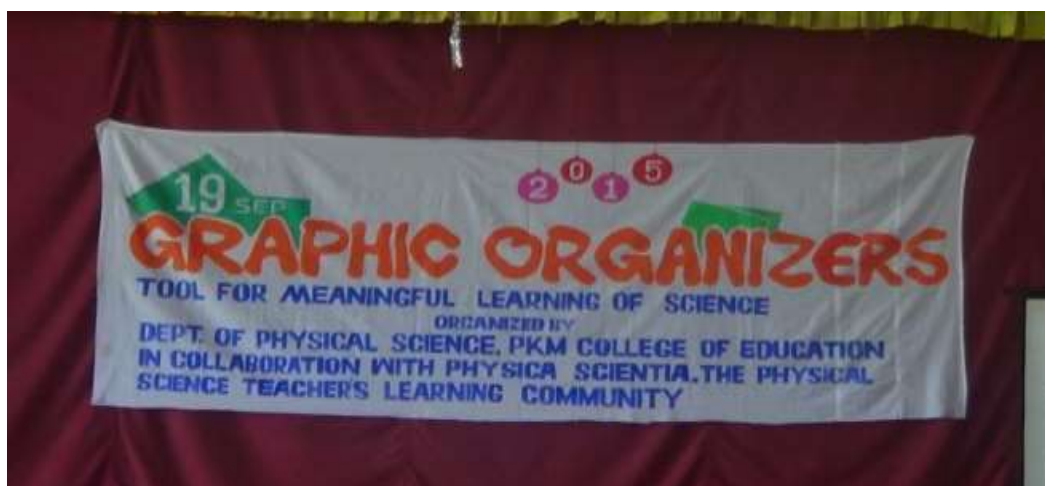
The function was inaugurated by the college principal Dr. Stephen T A and Dr Prasanth Mathew, Assistant professor of Physical Science department delivered the keynote address. Ms. Haseena T S, Ms. Suranya and Ms. Suja, members of Physica Scientia were present as resource persons. Dr. Rekha K R, Assistant professor of English department and Sr. Athulya, Assistant professor of Natural Science department delivered the felicitation. The highlight of the conference was the presence of members from other optionals: Anjana S Kumar and Aishwarya of English optional.

A book on graphic organizers was released on the same day, titled 'Graphic organizers for processing scientific knowledge' by the Principal which was handed over to Dr. Prasanth Mathew. The book contained details about different graphic organizers and their uses.

A workshop was conducted in the afternoon session by making different groups in which each group presented their new graphic organizers.

The outcomes of the conference are: launching of project for the redesigning of textbooks in school curriculum using graphic organizers and enabling ourselves to design graphic organizer of our own, preferably natural designs for effective teaching-learning process. The proceedings of the conference was released officially on 16th October.

Photos of conference 'graphic organizers tool for meaningful learning of science'



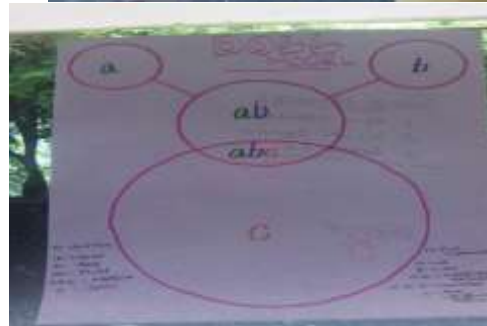
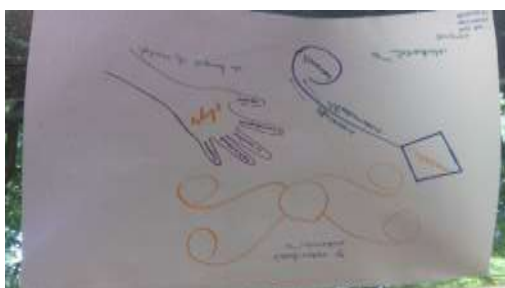
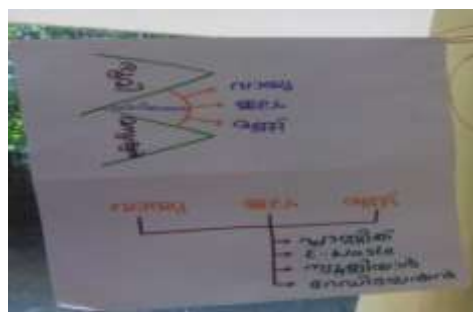


Workshop session



Outcome of workshop





PAPER PRESENTATION IN NATIONAL SEMINAR

Wilson Francis and Liya T Jose were credited with the opportunity to attend the UGC sponsored two day national seminar on VISION 2030: CONTRIBUTIONS OF EDUCATIONAL RESEARCHES ON NATIONAL DEVELOPMENT, held on 6th and 7th August 2015, organized by St. Thomas College of teacher education, Pala. They presented a paper titled **‘Science education 20-50’: Assumptions and predictions**. The paper delineates the expected changes in Science education through the years 2020 to 2050 and the changing role of Science teachers in the prospective future. The paper was published in the proceedings of the conference (ISBN 978-81-927201-4-2)

URJA KIRAN

Wilson Francis was authorized to attend a workshop on energy conservation titled “Urja Kiran” held at Kozhikode. Urja Kiran is the Energy Conservation Awareness Campaign (ECAC) conducted by Energy Management Centre and Centre for Environment and

Development. A project proposal was sent by the college with an objective to make public aware of energy conservation.

URJA KIRAN PROPOSAL ACCEPTANCE

Urja Kiran proposal was provisionally accepted and Wilson Francis attended the post sanction workshop on 17th November. The programmes that got approval are: an awareness class and public meeting including natives of Alex Nagar. The workshop gave instructions regarding the organisation of the social awareness programmes.

PUBLICATIONS

- 1) Proceedings of the conference “Science education 20-50” was released on 10th August in the morning assembly by the principal Dr.Stephen T A.
- 2) Proceedings of the conference “Graphic organizers: a tool for meaningful learning of Science” was released on October 16th by the principal Dr.Stephen T A.
- 3) “Graphic organizers for processing scientific knowledge”
This book on graphic organizers was released on the day of the conference on Graphic organizers, 19th September by Principal Dr.Stephen T A. This book contains details about different types of graphic organizers and their uses.
- 4) “Kerala Science Directory”
Kerala science directory contains details regarding places, persons and institutions of scientific interest, aiming at easy accessibility of information related to Science in Kerala. The book was released by Dr. Prasanth Mathew, Assistant professor, Physical Science.
- 5) “How to ask good questions”
This book introduces the different types of questions and the ways to encourage students to raise questions in Science classrooms. The book was released by college union chairman Sri. Jaim James.
- 6) “The art of Presentations”
The book contained different types of presentations and different ways to make effective presentations. The book was released by Dr. Veena Appukuttan, Assistant professor, Social Science.

EXHIBITION

Exhibition of newly designed graphic organizers:

The newly designed graphic organizers which emerged as an outcome of the conference on Graphic organizers were displayed on 23rd September in the Physical Science department.

AWARD OF MERIT

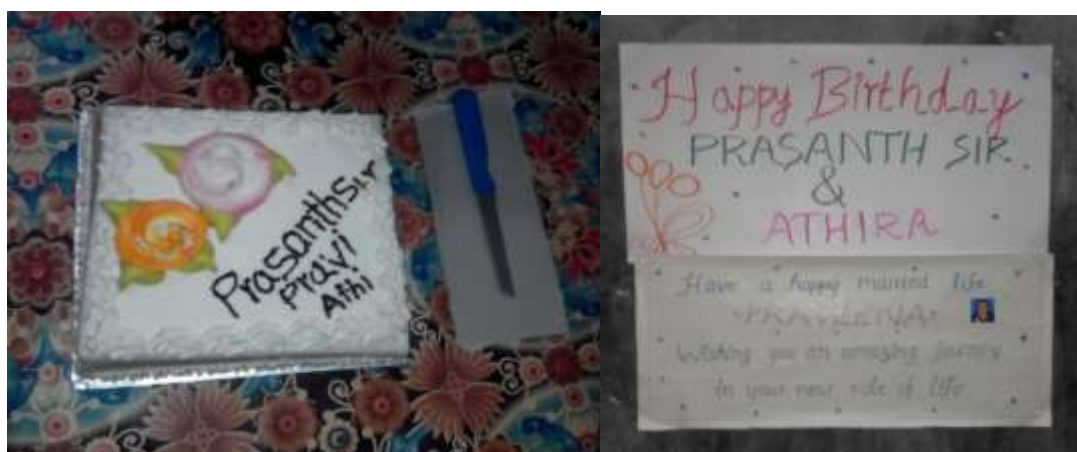
Haseena T S of 2013-14 batch was awarded for securing more than 60 percent marks in all five theory papers in the B.Ed university examination. The award was sponsored by Physica Scientia.

CLASSROOM BASED RESEARCH PROJECT

A project on “Redesigning of textbooks in the school curriculum using graphic organizers” in collaboration with Physica Scientia was initiated as an outcome of conference on graphic organizers held on 19th September.

CELEBRATIONS

Birthdays of each student is important and it was decided to celebrate birthdays, giving surprise to make them feel special on the special day. Wilson’s birthday was celebrated on 19th July. Athira’s birthday and Prasanth sir’s birthday was celebrated on 19th October. On this day special wishes were given to Praveenamol for her wedding which was to be held on October 25th.





OTHER INNOVATIVE PROGRAMMES

1. Bio data/ timeline

A bio data was made by each student, including their educational qualiications, which has to be updated accordingly.

2. Facility visit

A facility visit programme was held, introducing the facilities available in the college to all students for their easy accessibility.

3. Science corner

A science corner is maintained in the classroom, which contains the latest scientific news and articles that help the students to update their scientific knowledge.

4. Panel discussion

A panel discussion was conducted on the topic “Communication in Science” under the leadership of Anjali Babu on 6th and 7th September. The topics discussed were:

- i) Lecture cum demonstration method- by Rinsha Mannambath
- ii) Project method- by Wilson Francis
- iii) Problem solving method- by Shiji K
- iv) Heuristic method- by Liya T Jose
- v) Historical method- by Praveenamol M V
- vi) Brainstorming method- by Meera K C
- vii) Group discussion- by Aswathi T
- viii) Seminar- by Athira N
- ix) Conferences/ Workshops/Symposium- by Anjali Babu

5. Open discussion

An open discussion was held in the Physical Science classroom on 16th October, based on the topic “Professional development of Science teachers”.

6. Interdisciplinary class

Interdisciplinary classes were held on 28th and 29th October, incorporating the students of English department in the Physical Science classroom. The class was based on the different models of teaching: Synetics model, Concept attainment model and Inquiry training model.

7. Answer bank

An answer bank was prepared, which is a collection of best answers to the topics in the first semester syllabus. The processing of the book included steps like regular classroom discussions of each topic along with referring of various authentic books and online resources, and finally the identification of the best answers.

ROLES ASSIGNED

1. General class representative : Wilson Francis
2. Class representative : Rinsha Mannambath
3. Account Managing : Rinsha Mannambath and Shiji K
4. Science corner managing : Liya T Jose and Shiji K
5. Coordinators of conferences
 - i) Science Education 20-50 : Wilson Francis and Liya T Jose
 - ii) Graphic Organizers : Shiji K and Praveenamol M V
6. Coordinators of books published/ to be published
 - i) Kerala Science Directory : Aswathi T and Athira N
 - ii) Art of presentations : Anjali Babu and Shiji K
 - iii) How to ask good questions : Liya T Jose and Rinsha Mannambath
 - iv) Answer bank : Anjali Babu and Praveenamol M V
 - v) Journey through life of scientists : Wilson Francis and Meera K C
 - vi) Graphic organizers for processing Scientific knowledge : Wilson Francis and Rinsha Mannambath
7. Union members
 - i) Vice chairman : Meera K C
 - ii) General Secretary : Liya T Jose
 - iii) Class representative : Rinsha Mannambath

Report of class activities

Semester II

The classes for second semester began from 15th December 2015.

Observance of scientific days of importance

Energy conservation day

Energy conservation day which has to be observed on 14th December was observed on 15th December, due to semester exams. Wilson Francis presented an awareness talk based on importance of energy conservation. All the members of PKM college took the pledge to conserve energy, which was delivered by Liya T Jose. A quiz competition was conducted by Shiji K and Athira N based on this topic and prizes were distributed to the winners.

National Science Day

National Science day was celebrated on 29th February. A general quiz was conducted in which all the members of the PKM family took part. Question cards comprising of three questions on basic science were distributed to all student teachers, teaching and non-teaching staff of the college. The formal sessions began by 9.45am, with the morning prayer. Welcome speech was delivered by Mr. Wilson Francis, presidential address was given by Dr. Stephen T A, principal, PKM college of education. Sr. Sindhu V K, Assistant professor in Natural Science, felicitated over the programme. The central attraction of the day was the talk given by our resource person Mr. K K Ravi, teacher of GHSS Koyyam. His talk was based on the importance of science day, relating science with our daily life. Videos of life of C V Raman and other eminent scientists were presented. Meera K C made a powerpoint presentation on the importance of science day. The theme of the year for science day was based on scientific issues. Vote of thanks was given by Muneera of Natural Science optional.

The winners of the general quiz competition were selected by the principal out of 15 student teachers and 5 teaching and non-teaching staff. Praveenamol MV of physical science optional, Soniya Vargese of Malayalam optional and Sister Karunya were the lucky winners. Principal handed over their gifts in the college assembly.

Celebrations

Birthday of Liya T Jose was celebrated on 21st december. Birthdays of Aswathi T, Praveenamol and Shiji K were celebrated on 30th January 2016 at Beypore beach.

Introducing the reflective diary on science

On the new year's day, the reflective diaries on science, designed by student teachers of physical science option were introduced to the members of the college, at the general hall. Liya T Jose gave a brief introduction to the programme and introduced the diary designed by her. Then, each of the members introduced their diaries.

Science corner

A science corner was setup in the Physical science classroom. A notice board displaying news of scientific importance, latest discoveries and inventions in science and technology, innovative ideas in

the field of science etc. was included. Science magazines and other science related books were also incorporated.

Poster competition

A poster competition was conducted for the members of PKM College on 15th January 2016 on the topic " energy efficiency and conservation". White chart papers were provided and participants were asked to present their posters. Certain rules were also given. The best posters were awarded with LED bulbs. Nayana lakshmanan of mathematics optional and Ganga of natural science optional were selected as the winners of the competition. All the posters were exhibited at the Sathyan smaraka vayanashala, during energy conservation awareness campaign on January 26.

Urja Kiran 2015-16

An energy conservation awareness campaign was conducted on 26th January 2016 for the residents of Alex Nagar in collaboration with Sathyan Smaraka Vayanasala, Arts and sports club, Alex Nagar. The programme was financially assisted by Energy Management Centre, Kerala and technically supported by centre for environment and development. The programme began by 9.30am. The awareness class was taken by Sri. Ravi V V, resource person of energy management centre Kerala, on the topic "Energy efficiency and conservation". The awareness class was followed by a public meeting.

Workshop on basic science

A workshop was conducted from 11-15th January, to make concept maps based on basic science.

Fieldtrip

Conducted field trip to Regional science centre and planetarium, Calicut on 30th January 2016.

Paper presentation in National seminar

Aswathi T, Shiji K and Liya T Jose attended the UGC sponsored national seminar on 'Pedagogical innovations in language education' organized by department of Hindi, Keyi Sahib training college Taliparamba, on 15th and 16th of February 2016. Aswathi and Shiji presented their paper titled "Questioning: means to encourage active participation of students in classroom". Liya presented a paper titled "Desired attributes of better learners".

Seminar on cooperative learning structures:

A seminar was held on 9th March, based on cooperative learning structures. The need for cooperative learning and cooperative learning structures were presented as an introduction to the topic. 24 different cooperative learning structures were introduced. The various advantages of cooperative learning structures were also described in the seminar.



**DEPARTMENT OF PHYSICAL SCIENCE
2015-17 BATCH**