

CHAPTER 14

EDUCATION

Doctoral Theses

137. ANAND (Ruchi)
Evolving Pedagogic Practices for Social Science Teaching to High Ability Learners.
Supervisors : Dr. Pankaj Arora and Dr. Vandana Saxena
Th 22182

Contents

1. Introduction : A case for nurturance of 'ABILITY' 2. High ability learners in social science : Developing a conceptual frame of reference 3. Research methodology 4. Analysis and interpretations : Comprehending classroom procedures and practices 5. Findings, educational implications, conclusion and suggestion for further studies. Epilogue, bibliography and appendix.

138. BANSAL (Garima)
Assessment, Curriculum and Pedagogy : Towards Conceptualising an Alternative Framework of Assessment.
Supervisor : Prof. Gaysu R Arvind
Th 22178

Contents

1. Introduction 2. Locating educational assessment in the academic discourse 3. Research inquiry and method 4. Understanding the field 5. Formative assessment and curricular practices 6. Formative assessment and pedagogy of engagement 7. Formative assessment and teachers 8. Concluding thoughts. References. Annexures.

139. CHATTERJEE (Pubali)
Comparative Study of Independent Living Skills of the Visually Impaired Students Studying in Exclusive and Inclusive Schools.
Supervisors : Dr. Sandeep Kumar and Dr. S R Mittal
Th 22179

Abstract

Abstract In this era of inclusion acquisition of Independent Living Skills is very important for students with visual impairment. It is evident that the over-all inclusion of these children in mainstream society is not possible without acquiring these skills. The educational environment influences the acquisition of Independent Living skills by a visually impaired child. In this study, the investigator has tried to compare the Independent Living skills of visually impaired students studying in various educational settings. The study will also compare the Independent Living skills of visually impaired boys with visually impaired girls in different educational settings. Statement of the problems:- "A comparative study of Independent Living Skills of the Visually Impaired students studying in exclusive and inclusive schools." Methodology: - As the present study has both quantitative and qualitative

components, investigator has employed Descriptive Method of research and qualitative Theme-based analysis. Sample: - The samples of the study are consisted of 100 visually impaired students studying in elementary classes of different special and inclusive schools of Delhi. Tools: - As the study has both the qualitative and quantitative components, the investigator used different tools like, data-blank, interview schedules and observation schedule consists of Independent Living Skill Tests. Findings:- Visually impaired boys studying in special schools and girls studying in inclusive schools acquired significantly better Independent Living Skills. Visually impaired students studying in special schools acquired significantly better Independent Living Skills. Among the visually impaired boys and girls, boys acquired better Independent Living Skills. Non-availability of trained teachers and instructors on regular basis for teaching these skills. Preparation of need-based Independent Living Skill training is essential. School time-table should have provision for time to teach these skills. Orientation and training of the parents is the need of the hour.

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1. Introduction 2. Review of related literature 3. Methodology 4. Data analysis and interpretation 5. Discussion, conclusion and recommendation for further studies. Bibliography and appendices.

140. GOEL (Nidhi)

Exploratory Study of Children's Understanding of Mathematical Concepts in Micro and Macro Situations.

Supervisor : Prof. Bharati Baveja

Th 22432

Abstract

The main purpose of this research was to examine the effectiveness of 'Teaching Mathematics Thematically' approach on the conceptualization of certain concepts in mathematics at primary school level and the attitude of learners towards mathematics. This intervention program was developed according to the Situated Cognition approach wherein learning experiences are situated in the social context of learners. A quasi-experimental research design was used to conduct the study. There were 40 learners in the experimental group and 39 in the control group. The experimental group was taught according to 'Teaching Mathematics Thematically' approach, wherein the themes were based on the learners' everyday experiences. The control group was taught according to the 'traditional teaching' approach involving the same mathematical concepts. The subject matter of teaching was drawn from the text book prescribed in school. After the intervention, both the groups were tested for their performance on post intervention tasks. A comparative analysis of the scores obtained by the learners was conducted using t-test. An "Attitude Questionnaire" was also administered to both the groups to examine their attitude towards mathematics. The analysis revealed that the "Teaching Mathematics Thematically" approach had a significantly greater effect on mathematical understanding at various levels of cognitive complexity as compared to the 'traditional teaching' approach. It was observed that meaningful contexts facilitated the problem solving process by enabling learners to work out the tasks by taking clues from familiar situations. The findings of the study reflected that pedagogical design deployed in the experimental group played a pivotal role in creating learners' positive attitude towards mathematics. The study found that it is important to situate learning of children in their everyday context and conduct thematic teaching to make it meaningful for learners.

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1. Introduction 2. Theoretical framework 3. Review of related literature 4. Design of the study 5. Results 6. Discussion and implications of the research. References and appendices.

141. HASHMI (Qudsia Iqbal)

Study of the Difficulties in Learning of English by Hindi and Urdu Speaking Students in India and Saudi Arabia.

Supervisors : Dr. Neera Narang and Prof. Bharati Baveja

Th 22174

Abstract

This study intended to analyse the difficulties in learning of English language by Hindi- and Urdu-speaking students in India and Indian expatriates in Saudi Arabia. The study aimed at studying the difficulties faced by non-native students of English in India and in Saudi Arabia, ascertaining the possible effects of the first language of non-natives on English, exploring other reasons of difficulties faced by the students learning English and to propose a possible solution to deal with the difficulties in learning English. Hindi, Urdu and English speaking students of class 5 of three schools were taken as sample. The present study is qualitative and descriptive in nature. It is concerned with descriptions of conditions and relationships that exists. A modified diagnostic test, classroom observations, learners' notebooks, test scripts, questionnaire and interviews for teachers were used as tools for data collection. An indepth error analysis was made to analyse the data and interpret the results. Findings of the study revealed that All the three groups face problems in the learning of English, however the nature of difficulties and the level varies from context to context. The English medium school performed better than even Urdu medium school which is better than its counterpart-Hindi medium school. The type and amount of difficulties faced by the Urdu/Hindi medium students may be attributed to the first language background of the learners. It has also been found that the school following English as the medium of instruction, and better environment may lead to better results. For further studies it was suggested that an in-depth study needed to explore the factors associated with the teaching-learning of English in Saudi Arabia. An experimental study can also be carried out to see the difference between groups of different kinds and n evolution of teaching strategy (technology integration) may facilitate further to come out with fruitful results.

Contents

1. Introduction 2. Critical analysis of pedagogic issues 3 Review of related literature 4. Design of the study, analysis and interpretation 5. Conclusion and suggestions. References and appendices.

142. KAUSHIK (Sonika)

Children's Engagement with Literacy During the Pre-Primary Years.

Supervisor : Dr. Shobha Sinha

Th 22176

Contents

1. Introduction 2. Review of literature 3. Methodology 4. Analysis and interpretation 5. Conclusion. References and appendices.

143. लता

स्कूली परिवेश में जेंडर विभेदीकरण का स्वरूप : कक्षायी प्रक्रियाओं के विशेष संदर्भ में।

निर्देशिका : प्रो. साधना सक्सेना

Th 22509

विषय सूची

1. शोधार्थी की फील्ड वर्क में प्रवेश की जीवंत यात्रा के अनुभव 2. शोध अध्ययन की रूपरेखा के संदर्भ में 3. संबंधित साहित्य की समीक्षा 4. शोध अध्ययन की प्रविधि की प्रकृति और महत्त्वपूर्ण सरोकार 5. शोध अध्ययन के फील्ड वर्क का वर्णन और विश्लेषण 6. शोध अध्ययन के निष्कर्ष, सीमाएँ एवं सुझावों का प्रस्तुतीकरण। संदर्भ ग्रंथ सूची एवं परिशिष्ट।

144. मल्होत्रा (कमल)

उच्चतर माध्यमिक कक्षाओं में निर्धारित हिन्दी की पाठ्यपुस्तकों में निहित मूल्यों की अंतरण-प्रक्रिया का अध्ययन।

निर्देशिका : डॉ. नीरा नारंग

Th 22175

सारांश

यह शोधकार्य विभिन्न शिक्षा आयोगों और राष्ट्रीय पाठ्यचर्या रूपरेखा-2005 के उन दिशा निर्देशों को जाँचने का प्रयास है जो शिक्षा द्वारा मूल्य-स्थापना पर बल देते हैं। इस शोध-कार्य के उद्देश्य थे - उच्चतर माध्यमिक स्तर पर निर्धारित हिन्दी पाठ्यपुस्तकों में अंतर्निहित मूल्यों के अभिनिर्धारण की दृष्टि से उनका समीक्षात्मक विश्लेषण; कक्षा शिक्षण के अंतर्गत मूल्यों के अंतरण के लिए शिक्षकों द्वारा किए गये प्रयासों का मूल्यांकन तथा विद्यार्थियों द्वारा मूल्यों के आत्मसात्करण का मूल्यांकन। इनकी पूर्ति के लिए हिन्दी पाठ्यपुस्तकों का विश्लेषण किया गया। हिन्दी पाठ्यपुस्तकों के संबंध में हिन्दी शिक्षकों के अभिमतों को जान उनकी शिक्षण-विधियों से मूल्यों की अंतरण-प्रक्रिया का प्रेक्षण-विश्लेषण किया। पाठ में निहित मूल्य विद्यार्थियों तक पहुँचे-इसकी प्रतिपुष्टि के लिए विद्यार्थियों को पाठ में निहित मूल्यों से संबंधित जीवनानुभव लिखने को कहा गया। प्रतिदर्श रूप में दिल्ली के 20 सरकारी व सरकारी अनुदान-प्राप्त विद्यालयों के 20 शिक्षकों की शिक्षण-अधिगम-प्रक्रिया का प्रेक्षण-विश्लेषण किया गया। पुस्तक-विश्लेषण में पाया कि पाठों में अनेकानेक मूल्य निहित हैं जिनका अंतरण उच्चतर माध्यमिक स्तर पर अपेक्षित है। कक्षा संव्यवहार के प्रेक्षण-विश्लेषण से तीन प्रकार के शिक्षक वर्ग उभरकर आए हैं। प्रथम वर्ग ऐसे शिक्षकों का है जिन्होंने पाठ में से मूल्यों को तो पहचाना किंतु शिक्षण-

अधिगम-प्रक्रिया में अंतरण के लिए विशेष प्रयास नहीं किया. दूसरे वर्ग के शिक्षकों ने मूल्य पहचानकर उनके अंतरण पर बल दिया और विद्यार्थियों को विचार प्रकट करने का अवसर दिया. तीसरे वर्ग के शिक्षकों ने अनौपचारिक साक्षात्कार में ही मूल्यों का कोई उल्लेख नहीं किया और न ही शिक्षण-अधिगम-प्रक्रिया में उनपर कोई बात की। विद्यार्थियों की अनुभवजन्य लिखित अभिव्यक्ति में देखा कि अधिकांश ने पाठ में निहित मूल्यों और उन्हें उद्घाटित करने वाले अंशों आदि को पहचाना. ऐसे विद्यार्थियों का प्रतिशत कम है जो उन मूल्यों से संबंधित अनुभवों को लिखित रूप में व्यक्त कर सके. शिक्षकों के प्रयासों व विद्यार्थियों के मूल्य-आत्मसात्करण में सीधा संबंध देखा गया।

विषय सूची

1. पूर्वपीठिका 2. सैद्धांतिक पृष्ठभूमि एवं संबद्ध साहित्य सर्वेक्षण 3. शोध- अभिकल्प तथा कार्य-विधि 4. दत्त सामग्री का प्रस्तुतीकरण, विश्लेषण एवं व्याख्या 5. निष्कर्ष एवं समाहार। संदर्भ ग्रंथ सूची एवं परिशिष्ट।

145. सावित्री

भारतीय राजनीतिक संस्थाओं में जनप्रतिनिधि महिलाओं की सक्रियता के सन्दर्भ में उनकी शैक्षिक पृष्ठभूमि के प्रभाव का अध्ययन : पंचायती राज संस्थाओं के विशेष सन्दर्भ में ।

निर्देशिका : प्रो. साधना सक्सेना

Th 22181

विषय सूची

1. संकल्पित-रूपरेखा 2. संबंधित साहित्य की समीक्षा 3. शोध कार्य की प्रकृति 4. शिक्षा तथा महिलाओं की राजनीतिक भागीदारी : एक संक्षिप्त इतिहास 5. पृष्ठभूमि का प्रभाव : एक तथ्यात्मक विश्लेषण 6. पृष्ठभूमि के प्रभाव का विवरणात्मक विश्लेषण 7. निष्कर्ष एवं सुझाव। संदर्भ ग्रंथ सूची एवं परिशिष्ट।

146. PATHAK (Dipi)

Towards a Human Society : Education of the Disabld in the Context of Policy Initiatives in Post-Independence India.

Supervisors : Prof. Namita Ranganathan and Prof. Krishna Maitra

Th 22436

Contents

1. Central focus, conceptual framework and research objectives. 2. Understanding the socio-historical evolution of disability : A timeline approach. 3. Paradigms and shifting stances in understading disability. 4. Perspective on disability as reflected in national and international policies. 5. Contributions of the national institutes to the education and inclusion of persons with disabilities. 6. Discussion and inlications of key findings and some psycho social relections. Bibliography and appendix.

147. RAI (Malvika)
How Children Negotiate Writing : A Study of a Traditional and a Process Based Classroom.
Supervisors : Dr. Shobha Sinha and Dr. Carole Janisch
Th 22434

Contents

1. Introduction 2. Review of literature 3. Methodology 4. Analysis and interpretation
5. Conclusion. References and appendices.

148. SAJJAD AHMAD
Muslim Students and Alienation : A Study of Delhi Schools.
Supervisor : Prof. Gaysu R. Arvind
Th 22431

Abstract

The study focused on exploring and understanding the reasons behind alienation of Muslim students studying in the schools of Delhi. It focused to understand the causes of alienation, in its historico-political, socio-cultural, economic and psychological contexts, within formal educational settings. It was conceived and formulated on a wide canvas of Muslims in India in context of their living and seeking of individual and collective significance and the meaning of their existence. The factors within schools generating a feeling of alienation were comprehended. Some of the aspects explored included those contexts that lead to estrangement from education; Muslim students' experience of everyday school practices that shape their aspirations, world view and meaning-making about self and the others and the pedagogical processes that influence their alienation and so on. This descriptive researcher adopted a systematic analytical approach to unravel the problem. It was addressed at two levels: (i) comprehended the theoretical discourse that provided the base to understand ground realities pertaining to Muslims' situation and (ii) examined the ground realities in schools where the perceptions of teachers, students and parents were explored. Three distinct areas were chosen to conduct the study. These were historically situated habitat prior to partition; settlement after partition of the country and areas of recent settlements. Out of these areas, nine schools (3 each of boy's, girl's and co-ed schools) were chosen with three parameters i.e. where Muslim students were in majority; where Muslim students were in almost equal ratio of 'other community students' and where lesser Muslims students were enrolled as compared to 'others community students'. The findings suggests that the patterns of alienation among Muslims student in the sample areas are not uniform and is relative to area specific. This suggest that de-alienation has started taking place at a very slow pace among the community.

Contents

1. Introduction 2. Evolving the framework of the study 3. Design of the study 4. Understanding the field of the study 5. Pilot exploration 6. School : Concerns. despair and hope 7. Traversing alienation : Some more insight from the field 8. Concluding observations. Bibliography and appendices.

149. SAXENA (Astha)
Understanding Pedagogical Content Knowledge in the Context of Ethical Issues in Biological Sciences.
Supervisor : Dr. Alka Behari
Th 22508

Abstract

Science and Ethics can no more be viewed dialectically as both have scope to supplement each other within the existing disciplinary domains. The two need not be similar either in their intent or their method of inquiry, but need to coexist and interact so that the true essence of science and technology can be brought out, which encompasses the often neglected humane dimension. The present research is an endeavor to integrate the ethical component in Sciences and to simultaneously understand teachers' notions about the ways of negotiating ethical issues related to Biotechnology in their classrooms. The study involved developing a framework for inquiry into the ethical issues related to Biological Sciences and undertaking a critical analysis of the Class-XII Biology textbook in the light of the framework. In order to understand the complex world of a Teacher's knowledge repertoire in the area of Ethical Issues in Biological Sciences, their "Pedagogical Content Knowledge (PCK)" was studied. A case study based design has been adopted with the sample of teachers from higher secondary and undergraduate level teaching Biological Sciences. Detailed case narratives were developed for twelve teachers using data collected through various techniques. The findings revealed that the text book tends to give just a superficial exposure to these issues. The picture of Technology portrayed is utilitarian and beneficial for the human kind. The nature of teachers' PCK was found to comprise of argumentations around ethical issues, however, multiple-perspectives in Sciences were found to be lacking in Science classrooms. The other factors affecting teachers' PCK included their knowledge about nature of Science, use of emotional metaphors, beliefs about technology, knowledge of argumentation, autonomy in selecting the content for teaching, and experience in teaching. The study has implications for policy makers, curriculum developers, teacher education programmes, Science teacher-educators and in-service teachers.

Contents

1. Introduction 2. Theoretical orientation 3. The research design 4. Analysis of data-I : Critical analysis of biology textbooks 5. Analysis of data 6. Major findings and discussion 7. Conclusions, educational implications and suggestions for future research. Bibliography and appendices.

150. SHANKAR LAL
Role of Computer Assisted Instruction in Improving Adaptive Behaviour of Children with Mental Retardation.
Supervisor : Prof. Shree Ram Mittal
Th 22184

Abstract

This study investigate the Role of Computer Assisted Instruction in improving Adaptive Behaviour skill of Children with Mental Retardation (Divjangjan); therefore treatment package that included multimedia and sound effect to teach three adaptive behaviours (e.g. brushing independently, eating appropriately and greeting other) to 20 students with intellectual disabilities in an individualized educational setting. The CAI

programme for adaptive behavior was developed and consists of two parts. Part 'A' consists stage I i.e., matching and identification, stage II i.e., play back video instruction as well as stage III i.e., training aspect. Apart from that the part 'B' consists; selection of language i.e., Hindi and English. Further the content validity and test retest reliability of the CAI programme was worked out, and a pilot study also have undertaken for final try out of the study. The selection of sample was done at Disha Special School for persons with intellectual disabilities at Sirsa Haryana. In this research purposive sample (Non- Probability) was taken considering the requirement of parent and need of the students among the mild and moderate mental retardation. The sample consists 20 children with mild (12) and moderate (8) mental retardation was selected out of which, 10 were placed in experimental group and rest were placed in control group. Data was collected and analyzed using appropriate statistical measures. The results indicated that CAI programme that includes multimedia and animation can be an effective and useful in teaching adaptive behaviour skills to students with intellectual disabilities regardless of their level of retardation and gender. However, CAI helps as per the experiment conducted in the present study, in retention of the learnt adaptive behaviour in students with intellectual disabilities (Divjangjan). The present study has its implication for society in general and teacher as well as learners in particular.

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1. Introduction 2. Review of related literature 3. Methodology 4. Analysis and interpretation 5. Discussion and conclusion. Bibliography and annexures.

151. श्रीवास्तव (चन्दन)

ग्रामीण अध्यापकों की वृत्तिक अस्मिता के मनोसामाजिक पहलुओं का अध्ययन।

निर्देशिका : डॉ. अल्का बेहारी

Th 22433

सारांश

प्रस्तुत शोध ग्रामीण अध्यापकों की वृत्तिक अस्मिता से सम्बंधित है जिसमें उनके वैयक्तिक, सामाजिक व वृत्तिक पहलुओं के अंतर्सम्बंधों को समझने का प्रयास किया गया है। शोध की पृष्ठभूमि एवं प्रतिभागी बिहार से सम्बंधित हैं, जो कि मूलतः एक ग्रामीण परिदृश्य वाला राज्य है। साथ ही, इस अध्ययन में ग्राउन्डेड थियरी को प्रविधिशास्त्र के रूप में अपनाया गया है जिसके आलोक में संदर्भजनित आँकड़ों को विविध उपकरणों एवं तकनीकों के माध्यम से एकत्र किया गया। शोध के विश्लेषण को आँकड़ों से उभर कर आए विषयवस्तुओं/थीम के अंतर्गत प्रस्तुत किया गया है। पहला निष्कर्ष यह आया कि ग्रामीण अध्यापकों की धारणाओं में उनके अध्यापन वृत्ति की आदर्शात्मक छवि है तथा वे अपनी वृत्तिक अस्मिता में मानवीय अभिलक्षणों को केन्द्रीय महत्त्व दे रहे हैं। जबकि, ग्रामीण समुदाय के लोग अपने गाँव के अध्यापकों की वृत्ति को यथार्थवादी दृष्टिकोण से देख रहे हैं तथा अपनी धारणाओं में ग्रामीण अध्यापकों के वृत्तिक अभिलक्षणों को केन्द्रीय

महत्त्व दे रहे हैं। इससे प्रतीत होता है कि ग्रामीण अध्यापकों और ग्रामीण समुदाय की धारणाओं के फोकस में अंतर दिख रहा है। अध्ययन से एक और निष्कर्ष यह निकलकर आया है कि प्रशिक्षणरत ग्रामीण अध्यापकों की वृत्तिक धारणाओं के निर्माण में अध्यापक शिक्षा कार्यक्रम की प्रभावी भूमिका है। इससे, ग्रामीण अध्यापकों के पूर्व धारणाओं में परिवर्तन आया है तथा उनमें वृत्ति के सैद्धांतिक आधारों की समझ विकसित हुई है। उपरोक्त निष्कर्षों को अंतर्सम्बंधित करने पर यह समग्र निष्कर्ष निकलता है कि ग्रामीण अध्यापकों की वृत्तिक अस्मिता के निर्माण में उनके वृत्तिक पहलू का वैयक्तिक एवं सामाजिक पहलुओं के साथ निरन्तर अंतःक्रिया होती रहती है। इसके परिणामस्वरूप ग्रामीण अध्यापकों के वैयक्तिक एवं सामाजिक पहलुओं का उनके वृत्तिक अस्मिता में समावेश होता रहता है।

विषय सूची

1. शोध परिचय 2. शोध के सैद्धांतिक आधार 3. शोध अध्ययन की योजना 4. आँकड़ों का विश्लेषण : ग्रामीण अध्यापकों की वृत्तिक धारणाएँ और गाँव का संदर्भ 5. आँकड़ों का विश्लेषण : बिहार में अध्यापक शिक्षा और ग्रामीण अध्यापकों का अस्मिता निर्माण 6. निष्कर्षों की चर्चा एवं शैक्षिक निहितार्थ। संदर्भ सची एवं परिशिष्ट।

152. SINGH (Anu)
Science Teachers' Current Pedagogies, Their Context and Their Pedagogical Experiences with an ICT Intervention : A Study
 Supervisor : Dr. P Mohan Raju
Th 22183

Contents

1. Introduction 2. Review of literature 3. Methodology 4. Interventions 5. Within case analysis 6. cross case analysis 7. Discussion and Implications. References and appendices.

153. SINGH (Anviti)
Politics of Indentification and Labeling of Elementary Level Children with Specific Learning Disabilities : A Critical Study.
 Supervisor : Dr. Sailaja Chennat
Th 22177

Contents

1. Introduction 2. Review of related literature 3. Research methodology 4. Analysis and interpretative Discussion 5 . Indentification and labeling of students with SpLD : The Scenario. References and appendices.

154. SINGH (Supriya)

Study of the Education and Socio Emotional Well-Being of Children with Autism in Inclusive and Special Schools.

Supervisors : Prof. Namita Rangnathna and Prof. Krishna Maitra

Th 22180

Abstract

As is implicit in the title, the present research aims to study the educational provisions and learning experiences that are followed and made available to children with autism in inclusive and special schools. In the case of children with autism, who constitute the central concern of the present research, the more dominant approach has been that of special schools. It was felt that a detailed study of both the set ups would yield significant cross learnings and also help to answer the debate on whether the needs of children with autism are better dealt with in special schools, in inclusive schools or equally well in both the set ups. The study is thus inspired not by a comparative flavor, but by a sense of wider complementary concerns. The major thrust of research is to understand the different approaches, strategies and practices adopted by schools for the education of children with autism. The type of placement, teaching methods employed and curriculum content are all key interrelated aspects of any educational programme for children with autism. That is, where, how and what of learning. The study promotes understanding of socio emotional well being in terms of what constitutes the socio emotional world of children with Autism as reflected in their behaviors, their reactions and their everyday interactions with the various people whom they engage with. It also focused on knowing from the reflected views of care givers and from detailed behavioral observations, how these children cope with their difficulties, how the sense of self develops in them and the specific strategies that schools adopt to facilitate these processes.

Contents

1. Introduction 2. Conceptual framework and review of related research 3. Design and methodology of the research 4. Presentation of institutional case study 5. Presentation of individual case studies 6. Summary, Conclusions and discussion of findings. Bibliography, glossary and appendices.

155. SITALAKSHMI (A. R.)

Evolution of Students' constructs in Science in Relation to Learner and Contextual Characteristics.

Supervisors : Dr. Alka Behari and Prof. Bharti Baveja

Th 22435

Abstract

This study attempts to examine the pathways of individual learners' change in understanding about concepts in science, in the context of an intervention designed using constructivist teaching- learning approach. The intervention was conducted with 35 students of Class XI science section in an urban private school in Delhi. Students pre-conceptions of phase changes and chemical bonding concepts were determined using purpose designed sets of conceptual questions, and through in depth conceptual interviews. A series of intervention sessions designed on constructivist principles were

implemented to address students' alternative conceptions and facilitate understanding of bonds as forces of attraction, as emphasised in recent literature. The pedagogy in the intervention sessions involved the steps: students expressing their prior constructs, reconstruction of ideas, application of new ideas and students' reflection on their own learning. Small group discussions and multiple external representations like graphs, tables, static pictures, dynamic visualizations, and student generated molecular level diagrams, were incorporated to facilitate reconstruction of ideas. Change in students' conceptual understanding was studied using a pre test-post test- delayed post test research design in combination with a multiple case study approach. Data included student generated diagrams, written explanations to the pre/post/ delayed test and intervention worksheets, responses to in-depth conceptual interviews, students' jottings in their reflective journals and researcher's field notes. Data was qualitatively analysed under various conceptual themes, with categorizing and coding of responses for ten cases (students). Students' construction and reconstruction of ideas has also been examined in relation to their individual characteristics like existing cognitive frameworks and learner's reflections on new learning. The study reveals students' alternative conceptions of bonding and phase changes and brings out the complexity in pathways of individual learner's conceptual development, which is of significance to teachers while planning lessons. Implications for pedagogy, curriculum and textbook are discussed.

Contents

1. Introduction. 2. Theoretical considerations and review of related literature. 3. Research design. 4. Data analysis and presentation : Students' pre-intervention constructs. 5. Data analysis and presentation : Evolution of students' constructs. 6. Data analysis and presentation : Learning in relation to individual characteristics and student's perceptions about the pedagogy. 7. Findings, reflections and implications. References and appendices.

156. VARSHNEY (Priyanka)

Evolving a Pedagogical Response to Socio-Cultural Experiences of Students in Science.

Supervisor : Dr. Vandana Saxena

Th 22430

Abstract

Researcher: Priyanka Varshney Supervisor: Dr. Vandana Saxena ABSTRACT India has a shared history of multiculturalism, which continues to enrich the lives of its people across time. Schools being one of the prominent and essential social institutions, reflect this actuality as the site of complex confluence of multiple socio-cultural experiences of the students. This diversity established in context of school has significant pedagogical conjectures. In specific case of science which is epistemologically universal in nature, the pedagogical precision to address diversity is often missing. This necessitates an inquiry into pedagogical processes in school science. The present study was conceptualised with the purpose to comprehend the multiplicity of experiences of students and teachers and to critically examine whether it confines the advancement of science-based thinking process among students. Science teachers and the students studying in grades sixth to twelfth in coeducational schools (with distinguishable school-ethos) were selected as participants for the study. Along with elaborate field observation and an in-depth analysis of science textbooks, interviews with science teachers & teacher educators and focussed group discussions & interviews with students, theme based case studies were designed to develop an all-inclusive understanding of the classroom scenarios across these varied school contexts. The research clearly corroborates that school practices are built around a structure which

has little or no scope for accomodating diverse experiences of the students. The point that this research takes forward is that even in science it is essential to evolve a pedagogical preposition with prime focus on student's experience to optimize the quality of learning. This can be an exceptionally enriching exercise as, after such an exchange, each of the participants will be further informed and better prepared to embrace diversity as an adult.

Contents

1. Central focus, primary considerations and research objectives 2. The conceptual lattice : Creating interface, epistemological and pedagogical positions in school science 3. The pathway : Research design, preparation, challegnes & accomplishments 4. Mapping contiuties, discontinuities & intersections across multiplicity of experiences : Elucidating classroom processes in science 5. Theoretical insights : Discussion and implications of key findings some relections on diversity and pedagogy. Epilogue, bibliography and appendices.