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**Topic of the Research: A Study of Pedagogical Content Knowledge and STS Approach at Elementary Level**

## Findings

**Findings of the Study**

The study highlighted the significance of linking science with daily life, noting benefits such as correlating scientific concepts with everyday experiences (31%), enhancing understanding (41%), making learning engaging (8%), preparing learners for the future (10%), and fostering scientific temperament (10%). In terms of lesson planning, respondents predominantly considered knowledge of science content and knowledge of context. Reflective practices commonly focused on knowledge of learners' understanding, while knowledge of assessment received less attention. Only three respondents consciously engaged in reflection-on-action after each class.

The most prevalent science process skill among 62% of respondents is the 'Observation' skill, while 'Prediction' tends to be overlooked. Activity-based methods are favored over the lecture method, with 62% of respondents incorporating activities in their teaching plans. However, approximately half of them discuss activities orally, resulting in lower ratings on the observation schedule. About 41% of respondents ensured that learning experiences were built upon their students' previous knowledge, but only 21% satisfactorily addressed misconceptions.

For STS issues, the most common strategy during observation was discussions and debates. 90% of the respondents are aligned towards activity-driven teaching, out of which 75% stated its

merits like effective learning and long-lasting impression However, during observation, only 40% of respondents were able to follow the activity-driven approach satisfactorily.

Previous knowledge is an area that was the focus of reflection for 30 respondents while they planned a lesson. 82% of the respondents based the introduction of their teaching plans on the previous knowledge of their learners. 65% of respondents during the interview stated previous knowledge as a factor that affects their teaching competency. 84% of respondents agreed to the presence of misconceptions in their classrooms.

Vertical integration was seen only in classrooms of sixteen teachers whereas horizontal integration was observed in classrooms of eighteen teachers.The classrooms of twelve respondents laid strong emphasis on the scientific content instead of reverberating the value-laden approach for teaching STS issues.

Fourteen respondents were rated as having satisfactory knowledge wherein they used multiple Audio-Visual resources during the discussion to raise awareness. Only three respondents were rated as having proficient knowledge as they focused on sensitizing the learners through classroom discussions, incorporating potential solutions and contributions from learners to address the issue, demonstrating the evolution of their PCK.  Only 29% of the respondents exhibited satisfactory knowledge and no respondent exhibited proficient knowledge about the inclusion of motivating activities in their teaching plans. 76% of respondents in their interview stated that their knowledge of instructional strategies has been developed during their engagement with teacher education courses.

Oral Assessment mainly through Q/A and discussions, was found to be the most dominant form of assessment used by the respondents. Twenty-two respondents allowed the learners to express their opinions freely, out of which five respondents were only facilitating the discussion making it more child-centric. The majority of respondents asked questions for checking the previous knowledge and targeted 'Assessment for learning' leaving behind the aspect of 'Assessment of learning'. The respondents have been rated as having the least knowledge of allowing different ways of representation of learning.