

PROBABILISTIC AWARENESS: A STUDY WITH HIGH SCHOOL STUDENTS

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PROBABILISTIC AWARENESS

Probability is making informed judgments on uncertainty (Gal, 2010; Utts, 2003) and to develop probabilistic thinking it is not enough to have cognitive knowledge of the mathematical content alone. It rather involves an ability to make rational assertions regarding the degree of uncertainty. When we try to comprehend uncertainty or make predictions about a situation we try to make our best possible assertions by amalgamating the information (explicitly or implicitly present in the situation) with our prior experiences. In conjunction, when making any judgments, we also depend on our idiosyncratic, informal and nascent understanding. In such a process we filter the information according to our subjective assertions and thus try to optimize our decision within the peripherals of the existing constraints. Being probabilistic aware, thus, means synergizing both explicit and implicit information of the situation, analyzing the context and making rational assertions about the uncertainty of the situation.

THE STUDY

The study was conducted with Grade XII students of Indian schools. The study was divided in two phases. In the first phase several situations which contained some term related to probability were chosen and studied in detail to discern which amongst them could be considered as ‘probabilistically non-judgmental situations’ and those that could be considered being as ‘probabilistic decisive situations’. After the students selected the situations that were ‘probabilistic decisive situations’, in the second phase, they tried to interpret the probabilistic information by analysing the Context, Intention, and Source(s) of the situation (Gal, 2010). The analysis of such constructs helped to understand how students make decisions on probabilistic information embedded in real-life situations. A deeper analysis helped in knowing the depth of probabilistic awareness of the students.

References

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- Utts, J. (2003). What educated citizens should know about statistics and probability. *The American Statistician*, 57(2), 74-79.