

APPENDIX K

Recordings of Classroom Interaction using SOCOPSI

Sample 1: Topic - Placement of electrons in an atom
 Teacher - PAK. Observer - SBM
 Date: 27-11-1981 Class - IX A

[T₁₁, T₆₁, T₁₁, T₂₂, S₁₁, T₂₃, S₄₁, T₂₃, S₁₁] wave nature of energy. [T₁₁, T₆₁, T₂₂, S₂₇, T₁₄, S₂₇, S₁₇, T₁₆, T₂₃, S₁₇, T₁₆, T₂₃, S₁₇, S₁₆, T₂₇, S₁₁, T₁₆, T₂₇, S₁₅, S₁₆, T₃₂, S₁₇, S₁₈, T₃₂, S₁₁, T₁₁, T₂₂, S₁₁, T₃₂, S₁₁, T₁₄, T₂₃, S₁₄, S₂₇, T₃₂, S₁₄, T₂₇, S₁₄, T₃₁, S₁₄, T₃₂, S₁₅, S₁₅, S₁₅, T₃₂, S₁₆, S₁₇, T₂₂, S₁₈, S₁₈, T₃₂, S₁₉/T₁₉] electrons are at different energy levels in an atom.

Sample 2: Topic - Transformation of substances
 Teacher - PAK Observer - SBM
 Date: 8-12-1981 Class - IX B

[T₁₁, T₂₁, S₁₁, T₆₁, T₂₂, S₁₁, T₆₂, S₁₁, T₂₁, S₁₁] recalling and performing several changes that occur to substances.

[T₁₁, T₆₁, T₆₂, S₁₄, T₂₃, S₁₄, S₁₅, T₃₁, S₁₅, T₁₆, S₁₁, T₄₁, T₂₃, S₁₄, T₂₃, S₁₅, T₂₇, S₁₅] melting of wax. [T₁₁, T₂₂, S₁₁, T₂₃, S₁₄, T₃₂, S₁₄, T₄₂, S₁₅, T₇₂, S₁₅, T₂₃, S₁₄, T₄₂, S₁₅] burning of candle. [T₁₁, T₆₁, T₆₂, S₆₁, T₂₃, S₆₄, S₆₄, T₄₂, S₆₅, S₆₅] burning of Magnesium. [T₁₁, T₆₁, T₆₃, T₆₂, S₆₄, T₄₂, S₆₅, S₂₇, T₂₇, S₂₇] precipitation of Silver chloride.
 [T₁₁, T₂₁, T₂₃, S₁₄, T₄₂, S₁₅, T₄₃, S₁₄, S₁₄, S₁₈, T₁₈, T₂₃, S₁₈, S₁₈] classification of changes.

Sample 3: Topic - Combination of elements based on electron structure.

Teacher - PAK

Observer - SBM

Date: 17-12-1981

Class - IX A

[T₁₁, T₂₂, S₁₁, T₂₂, S₁₁, T₂₂, S₁₁, T₆₂, T₂₃, S₁₄, T₂₂, S₁₁, T₂₃, S₁₄, T₂₇, S₁₄, S₁₅, T₁₆, T₂₃, S₁₄, T₃₂, S₁₅, S₁₁, T₃₂, S₁₆, T₂₇, S₁₁, T₂₃, S₁₄, S₁₆, T₁₁] compound formation of NaCl.
 [T₁₁, T₂₃, S₁₄, T₂₇, S₁₄, S₁₅, S₁₁, T₂₂, S₁₄, S₁₅, T₃₂, S₁₆, T₃₂, S₁₁] Magnesium compounds. [T₁₁, T₂₃, S₁₄, S₁₅, T₃₂, S₁₅, T₁₁, S₁₁] compounds of Al. [T₁₁, T₂₃, S₁₄, S₁₅, T₂₇, S₁₅, T₃₂, S₁₆] carbon compounds. [T₂₂, S₁₁, T₆₁, T₆₁, T₂₇, S₁₁, S₁₈, T₄₁, S₁₈] hypothetical compound.

Sample 4: Topic - Isolation of elements from natural sources

Teacher - PAK

Observer - SBM

Date: 20-1-1982

Class - IX B

[T₁₁, T₂₂, S₁₁, T₂₂, S₁₁, T₂₂, S₁₁, T₁₃, S₁₄, S₂₃, S₁₄, T₁₅, S₂₇, T₁₁, S₁₆, S₂₇, S₁₆, T₁₈, S₁₈] occurrence of elements in nature. [T₁₃, S₁₄, S₁₄, T₂₇, S₁₄, T₂₇, S₁₁, S₁₁, S₁₄, T₄₁, S₁₄, T₄₁, S₁₅, S₁₅, T₁₁, S₁₆] separation of elements from mixtures. [T₁₃, T₁₁, T₂₃, S₁₁, T₁₁, T₂₃, S₁₄, S₁₄, S₂₇, T₁₅, S₁₅, T₁₆, S₂₇, T₁₁, S₂₇, T₂₈, S₁₁, T₁₁, T₁₁, S₁₁] isolation of elements from compounds. [T₁₁, T₂₂, S₁₈, S₁₈, S₁₉, T₁₉, S₁₉] general methods of separation.

Sample 5: Topic - Factors affecting rate of a reaction
 Teacher - PAK Observer - SBM
 Date: 11-2-1982. Class - IX B

[T₁₁, T₆₁, T₆₂, S₁₁, T₂₂, S₁₃, S₁₃, T₁₁, S₁₄, T₂₇, S₁₅, S₁₅,
 S₁₄, S₁₅, S₁₄, T₆₅, S₁₄, T₆₅, T₂₇, S₁₅, S₁₆, S₁₆, T₂₃, S₁₄,
 S₁₄, T₆₅, S₁₇, S₁₇, T₁₉] nature of substance as a factor.

[T₆₃, S₁₄, S₁₄, S₁₇, T₂₇, S₁₄, T₂₃, S₁₄, T₆₂, S₁₄, T₅₂, S₆₅,
 S₆₅, T₅₂, S₆₅, S₆₆, S₆₆] physical condition of reactant as a

factor. [T₆₃, S₁₄, S₁₅, S₁₆, T₁₅, T₂₃, S₁₄, T₂₇, S₁₄, S₁₅,
 S₁₆, S₁₈, T₁₉] gaseous reactions. [T₂₂, S₁₁, T₂₃, S₁₄, T₂₃, S₁₄,
 T₂₂, S₁₄, T₂₂, S₁₁, T₁₉] rate of a reaction.

Sample 6: Topic - Chemical equilibrium
 Teacher - PAK Observer - SBM
 Date: 25-2-1982. Class - IX A

[T₁₁, T₂₃, S₁₄, S₁₄, T₂₇, S₁₅, T₂₂, T₂₃, T₂₂, S₁₁, S₁₄, S₁₁,
 T₁₁, S₂₇, T₃₁, S₁₄, T₁₁] rate of forward reaction. [T₁₁, T₂₂,
 T₂₃, S₁₁, T₂₃, S₁₄, S₁₄, T₂₇, S₁₅, T₃₃, S₁₄, S₁₅, S₂₇, S₁₅, T₁₆
 T₁₁, T₂₃, S₁₄, T₆₁, T₁₁] rate of backward reaction. [T₂₂, S₁₁,
 T₂₃, S₁₄, S₁₅, T₃₃, S₁₇, S₁₄, S₁₅, T₁₈, T₁₁, T₂₂, S₁₁, T₂₃,
 S₁₄, T₁₅, S₁₆, T₁₆, T₁₁, T₁₈, T₁₁, T₁₈, T₁₉] forward and backward
 reactions occurring simultaneously. [T₂₂, T₂₃, S₁₁, T₂₃, S₁₄, S₁₅,
 S₁₆, T₁₈, T₁₁] chemical equilibrium.

Sample 7: Topic - Manufacture of Nitrogen.

Teacher: ATS

Observer - SBM

Date: 28-10-1982

Class - IX A

[T₁₁, T₂₂, S₁₁, T₁₁, T₂₂, S₁₁, T₁₁, T₆₁, T₁₁] liquifaction of air. [T₁₁, T₂₂, S₁₁, T₁₁, T₁₁, T₆₁, T₁₁] separation of nitrogen. [T₃₁, T₁₁, S₆₂] answers to exercise questions.

Sample 8: Topic - allotropic forms of Phosphorous.

Teacher - ATS

Observer - SBM

Date: 25-11-1982

Class - IX B

[T₁₁, T₂₂, S₁₁, T₁₁, T₂₂, S₁₁, T₁₁, T₂₂, S₁₁] occurrence of Phosphorous. [T₂₂, S₁₁, T₂₂, S₁₁, T₂₂, S₁₁, T₁₁] allotropic forms of Phosphorous. [T₃₁, T₁₁, S₆₂] notes on allotropic forms.

Sample 9: Topic - Properties of carbon.

Teacher - ATS

Observer - SBM

Date: 30-12-1982.

Class - IX A

[T₁₁, T₆₁, T₁₁, T₆₁, T₁₁] oxidation properties. [T₁₁, T₆₁, T₁₁, T₆₁, T₁₁, T₂₂, S₁₁, T₁₁, T₆₁, T₁₁] reducing properties. [T₃₁, T₁₁, S₆₂] notes on properties of carbon.

Sample 10: Topic - Petroleum and petroleum products.

Teacher - ATS

Observer - SBM

Date: 20-1-1983.

Class - IX B

[T₁₁, T₂₃, T₂₃, S₁₄, T₁₁, T₂₂, S₁₁, T₂₃, S₁₄, T₁₁] refining of petroleum. [T₁₁, T₂₂, S₁₁, T₂₃, S₁₄, T₂₂, S₁₁, T₁₁, T₂₃, S₂₄, T₁₁] petroleum products.

Sample 11: Topic - Exothermic and Endothermic reactions.
 Teacher - ATS Observer - SBM
 Date: 10-2-1983 Class IX B

[T₂₃, S₁₄, S₁₄, S₁₄, T₁₁, T₆₁, T₁₁, T₆₁, T₁₁] exothermic reactions. [T₁₁, T₆₁, T₁₁, T₂₂, T₂₂, S₁₁, T₁₁, T₆₁, T₂₂, T₁₁, T₆₁, T₁₁] endothermic reactions. [T₃₁, T₁₁, S₆₂] notes on exo and endothermic reactions.

Sample 12: Topic - Factors affecting rate of chemical reactions
 Teacher - ATS Observer - SBM
 Date: 17-2-1983 Class - IX A

[T₁₁, T₂₂, T₁₁, T₆₁, T₁₁, T₂₂, S₁₁, T₁₁] chemical affinity as a factor. [T₁₁, T₂₂, T₁₁, T₆₁, T₁₁] physical state as another factor. [T₁₁, T₂₂, T₁₁, T₆₁, T₁₁, T₂₂, T₁₁, T₂₂, S₁₁, T₁₁, T₆₁, T₁₁] concentration of reactants.