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The Power of Knowledge

Lesson Plan

Contents

- ▶ Language and its development for communication: Oral, pictographs, alphabets and scripts.
- ▶ The number systems and their development and spread: Contribution of India.
- ▶ Paper and its development: china first to make probably.
- ▶ Printing and its development: from handwritten to printed books.
- ▶ Language and script for the differently-abled: for those challenges visually [Braille] and for those with hearing and speech impairment.

Objectives

- ▶ Learning about the development of language.
- ▶ Learning about the development of numbers: figures in sand, pebbles, sticks etc.; shifted to dots, figures, symbols, fingers; abacus, Hindu-Arabic system.
- ▶ Learning about evolution of paper
- ▶ Learning about printing
- ▶ Learning about Braille

Teacher's Aids

- ▶ Keep a few things to show the students: some seals from Indus Valley, abacus, clay tablets, palm leaf writing, types of the old letterpress, a sheet or book written in Braille.
- ▶ Use the internet to show students some of these things and basic aspects of modern printing.

Tips for Teacher

- ▶ Make the lesson fun with the things you can show and share.
- ▶ Ask the students to enact how they would communicate something without a formal language, words, etc.

/// Gear Up and Background

- ▶ This is the language of the hearing and speech impaired. Each gesture has a meaning. If you can, find out what they mean. [For example, Figure 3 means 'me' or 'mine'. Figure 4 means 'like' or 'love'.]
- ▶ However, as a general rule, this is the silent language of 'gestures'.
- ▶ Use this as a starting point to make the students 'say' things without the use of formal language. Have a fun session, using signs, gestures, maybe pictures, etc.
- ▶ Read the lesson aloud and explain it: Begin with how humans started to convey their thoughts and ideas to each other without words, language, etc.

/// The Story of Writing

- ▶ How the need to communicate led to writing.
- ▶ Pictographs – pictorial writing, wall paintings in several countries; hieroglyphics.
- ▶ Development of scripts based on pictures and symbols – representing sounds and words. All languages gradually developed.
- ▶ Sumerians of Mesopotamia 5000 years ago probably first developed a script.
- ▶ Egyptians – hieroglyphics.
- ▶ Indus Valley – the script has not been decoded yet.
- ▶ Chinese, Japanese, Korean scripts – based on signs and symbols.
- ▶ Alphabet developed for most languages – probably first developed by Syria.
- ▶ About 7000 languages in the world.
- ▶ English alphabet – 26 letters – based on the Roman script.
- ▶ India: Indus Valley script; then Brahmi; then Devanagari script used for Sanskrit, Hindi writing, and some other Indian languages.

/// The Story of Numbers

- ▶ Need for people to count their animals – used stones, pebbles, sticks.
- ▶ Then began to use fingers, figures, dots, symbols.
- ▶ Chinese began using abacus.
- ▶ Different parts of the world – different usage.
- ▶ Hindu – Arabic system, developed in India by Indian scholars and taken across the world by Arabs.
- ▶ Ten digits: 0 to 9 – Arabs called it the Hindsa system.

/// The Story of Paper

- ▶ Humans keeping records – of cattle, grains, army, etc. Used clay tablets.
- ▶ India – palm leaves for writing.
- ▶ China – probably first to make paper in 2nd century AD.

- ▶ Word paper from 'papyrus' – a reed found near Nile delta in Egypt. They cut reed into thin films to make paper.
- ▶ Now paper made from wood pulp, plant fibre and old rags.

/// **The Story of Printing**

- ▶ Ancient humans wrote on clay tablets, palm leaves, etc., with a pen-shaped tool.
- ▶ Books written by hand and copied – slow process; expensive books.
- ▶ First printing press 15th century Europe by Johannes Gutenberg in Germany: moulds for letters called types. Ink applied and letters pressed on smooth surface. First letterpress printed book: The Bible.
- ▶ More copies, less time and less costly books.
- ▶ Improvement in quality of printing and new technologies. Now computers used for typesetting and colour [called composing].

/// **The Story of Braille**

- ▶ Louis Braille – in 1825 developed the special script named after him for the blind.
- ▶ Braille script – letters represented by a pattern of dots raised on a thick sheet of paper. Can be read using fingers by blind persons. Books printed in Braille available.
- ▶ Interesting fact – there is a language of gestures and letters used by the hearing and speech impaired people. Suggest they watch the news that shows the language.