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Current definitions of learning disabilities refer to a set of disorders that affect reading, handwriting, spelling, mathematics, listening, expressive language, and social skills. By definition, learning disabilities are not caused by a lack of intelligence, sensory impairment (like deafness), primary emotional disturbance, or environmental, cultural, or economic disadvantage. This definition thus excludes all commonly accepted impediments to learning except neurological impairment. The theories, treatments, and investigations of the learning disabilities field frequently reflect the exclusionary approach of the definition. Learning disabilities are recognized primarily as school-related problems.

In the last decade, however, a growing number of experts in the field have come to see learning disabilities as arising from an interaction of neurophysiological with psychological, educational, and social factors. The neurophysiological factors are seen as necessary but perhaps not sufficient to explain the nature and prevalence of learning disabilities. Although the precise nature of these neurophysiological factors is yet elusive, the concept of learning disabilities seems to require a neurophysiological component as a *sine qua non*, setting learning disabilities apart as a group of disorders that merit legislative attention and support.

A systems approach is applied here to learning disabilities. This approach is a comprehensive

rather than an exclusionary approach. Thus, a learning disability is seen not simply as a problem in academic learning but as a particular style of thought, performance, and expression that can affect one's entire life. A learning disability is seen not as specific to school settings but as involving the family, the community, the immediate environment, and progressively farther-reaching environments. Rather than being seen as having a single cause, a learning disability is seen as the outcome of a network of forces that include the neurophysiological, emotional, familial, organizational, political, social, historical, and technological. Options for research and development are based on this integrative view.

In this case study, both "hard" and "soft" technologies relevant to the learning disabled are discussed. "Hard" technology refers to concrete discoveries and inventions such as facts about the brain and microcomputers. "Hard" technology is the **what**. "Soft" technology refers to **how** the technology is used and **who** uses it. The complex of legislation, private and public organizations, programs, theories, and research are all "soft" technologies. These "soft" inventions provide the social context for "hard" technologies. This case study argues that unless this social context is addressed, the promise that advanced "hard" technology holds for learning-handicapped people might be seriously compromised.