Emergence of New Disciplines

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1. Introduction

The term *discipline* refers to a particular branch of learning or body of knowledge such as physics, psychology, or history (Moran, 2010). Disciplines have contrasting substance and syntax, ways of organizing themselves and of defining rules for making arguments and claims that others will warrant. They have different ways of talking about themselves and about the problems, topics, and issues that constitute their subject matters (Schulman, 2002). Mary Taylor Huber and Sherwyn P. Morreale (2002) remarked that 'each discipline has its own intellectual history, agreements, and disputes about subject matter and methods and its own community of scholars interested in teaching and learning in that field'. Each discipline has its own defining elements—phenomena, assumptions, epistemology, concepts, theories, and methods—that distinguish it from other disciplines. According to Piaget (1972) discipline is a specific body of teachable knowledge with its own background of education, training, procedures, methods, and content areas. In the view of the Hirst (1964) each discipline is a form of knowledge with separate and distinct characteristics. Within each form are unique concepts and propositions that have tests to validate their truth.

2. Evolution of Disciplines

The evolution of a discipline begins with knowledge which develops through social experience or interaction between human beings and the environment in the form of a personalized experience of a particular cultural milieu which might have typical connotations and gets translated into universally applicable terms. Fundamental to the concept of academic discipline is the idea of narrowness of focus. A discipline defines boundaries, this is to be considered, and that is not. To go about the process of defining and focusing upon what is to be studied or considered, is to go about the process of specialization. This observable process of specialization allows us to track the evolution of disciplines.

Due to continuous production of new knowledge in different fields the need of its preservation and transfer was also inevitable. The customs and knowledge of ancient civilizations also became more complex. These different kinds of skills and activities were the earlier forms of human knowledge. Each generation, since the beginning of human existence, has sought to pass on cultural and social values, traditions, morality, religion and skills to the next generation. In pre-literate societies, education was achieved orally and through observation and imitation. But with the passage of time, different skills and activities became more specialized due to generation of new knowledge and new discoveries. Each

such discovery and invention enriched human‘s understanding in different fields of knowledge. The gaining of experiences in different fields and their further specialization results in the organization of knowledge of various fields. This organized body of knowledge of a particular field was termed as ‘discipline’. Disciplined study of different fields of human knowledge started with the beginning of institutionalized study and research of these areas at different times. The knowledge that a society possessed has been developed into the status of disciplines and its diversification and specialisation results in further fragmentation of knowledge in to new disciplines. The evolutionary process of disciplines can be explained as given in figure1.

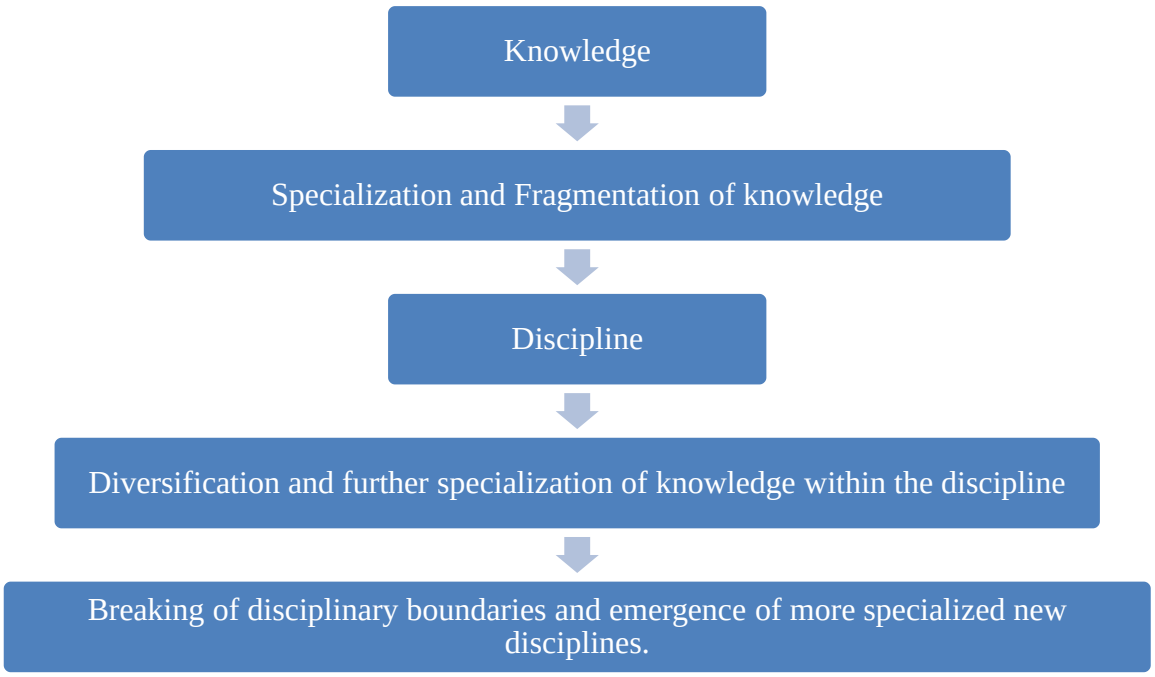

Fig.1: The Evolutionary Process of Disciplines

3. Formation of New Disciplines

Breaking of disciplinary boundaries and emergence of more specialized new disciplines may be occurred in one of the following ways:

(i) Two or more branches of knowledge merge and develop own distinct characteristics and form a new discipline. In interdisciplinary learning learners draw on two or more disciplines in order to advance their understanding of a subject or problem that extends beyond the scope any single discipline. Learners integrate and develop information, concepts, methodologies and procedures from two or more disciplines to gain new knowledge, understanding and skills, and commonly also to explain or solve problems. Frequently cited examples of interdisciplines are neuroscience, biochemistry, geobiology,

sustainability science and engineering, psycholinguistics, ethnomusicology, cultural studies, etc.

(ii) A social and professional activity becomes an area of application for several disciplines and recognized as an independent field of study. For example education, social work, management, medical Sciences, agriculture, technology and engineering etc. In these cases the practice of practitioners in the field became an organised discipline by incorporating the specialised knowledge emerged out of the practices.

(iii) When a number of disciplines converge into an important field of activity and resulting in two way flow of ideas for the enrichment of both. It results in the emergence of interdisciplinary knowledge and areas.

(iv) The changes in the socio political scenario may results in the formation of new disciplines. Based on the changes taking place in the living pattern of people, some form of enquiry may be essential and later they may results in the formation of new disciplines. For example ‘urban studies’ has been evolved as result of formation of urban society.

(v) New researches and consequent developments and inventions will also results in the formation of new discipline. For example, nanotechnology, information technology, Space Science etc. The invention of computer and related technology add to the development of information technology.

4. The Chronology of Formation of Disciples

Arthur L. Dirks (1996) gives a comprehensive account of the development of the academic disciplines. Some instruction of a utilitarian and religious nature is understood to exist within a family or tribal community. Pythagoras' Museum in the 500 BC cultivated studies of mathematics, music, acoustics, and geometry. Other inquiry was pursued by the Sophists, who established the oratorical tradition, but were itinerant teachers, and Socrates, who advanced his questioning method of provoking discovery. In 392 BC, Isocrates established a rhetorical school in Athens to train students in politics. In 387 BC, Plato opened his Academy in Athens. His standard studies included Pythagorean number theory, advanced geometry and speculations on science. He explored social issues, primarily: education, jurisprudence, politics, and sex. Aristotle founded his Lyceum in 335 BC in Athens, which resembled the Academy, but was wider in intellectual scope. There was little that escaped discussion: music, botanical classification, biology, anthropology, ethics, law, logic, metaphysics,

physics, politics, psychology, poetry, rhetoric. In Constantinople, Theodosius II founded a university in the 400s where the subjects ranged from grammar, letters, medicine, and law to philosophy.

By the golden era of Islamic culture in the 1000s, curricula covered a broad range including mathematics (algebra, geometry, and trigonometry), science (chemistry, physics, and astronomy), medicine (anatomy, surgery, pharmacy, and specialized medicine), philosophy (logic, ethics, and metaphysics), literature (philology, grammar, poetry, and prosody), social sciences, history, geography, politics, law, sociology, psychology, jurisprudence, and theology (comparative religions, history of religions, study of the Koran, religious traditions, and other religious subjects). (Cowley & Williams, 1991).

In medieval world, there existed only four main faculties for study. They were Medicine, Theology, Liberal Arts and Canon Law. In the contemporary period the number of studied disciplines increased greatly. From the middle of the nineteenth century, such rather new disciplines as non-classical languages, political science, literature, and economics were added. Besides, as there were made many discoveries in natural science and technology disciplines, engineering, biology, chemistry and physics were chosen to be studied.

During the twentieth century when the development of the whole world was very rapid, new academic sciences were needed to be studied. New level of life and social conscience demanded that psychology, sociology and education disciplines were added into the normal curriculum. In the end of the twentieth century, a new explosion of scientific interest was observed. There appeared rather new disciplines focusing on particular fields of knowledge or specific questions. Many disciplines were intended to prepare students for profession and career building. The development of Medicine led to new medical departments such as hospitality management and nursing. At last, the achievements in geophysics and biochemistry increased so much that there appeared the necessity to outline specific professions in this field because the scientist contribution to this branch was great and became widely known.

5. Summing Up

The evolution of disciplines is a continuous process. As the human beings, societies and technologies develop, human understanding and interpretations also develops and it results in the formation of new knowledge and emergence of new disciplines. As scientific knowledge, understanding and practices advances, some old disciplines may deprived off its dominance

or such disciplines are subjects to different forms of adaptations. For example, the jurisprudence practiced in the primitive societies, may not have much significance in modern humanistic societies. The basic premises of such jurisprudence must have changed to suite the contemporary social order. In the same way old procedures and practices in the field of medical field, education, farming etc has been updated on the basis of new scientific understanding and interpretations.

References

Areekkuzhiyil, Santhosh . (2017). *Understanding Discipline and Subjects*. Hyderabad: Neelkamel Publishers.

Areekkuzhiyil, Santhosh. (2017). Language across the Curriculum: Concepts, Approaches and Practices. Hyderabad: Neelkamel Publishers.

Dirks, Arthur L. (1996). Organization of knowledge: The emergence of academic specialty in America. Published on-line by author. Retrieved June 25, 2016 from: http://webhost.bridgew.edu/adirks/ald/papers/orgknow.htm

Hirst, P.H. (1964). *Knowledge and Curriculum*. London: Routledge and Kegan Paul.

Huber, Mary Taylor and Morreale, Sherwyn P. (2002). *Disciplinary Styles in the Scholarship of Teaching and Learning: Exploring Common Ground.* V.A: Stylus Publishing.

Moran, Joe. (2010). *Interdisciplinarity* . New York: Routledge.

Piaget, J. (1972). *The Epistemology of Interdisciplinary Relationships*. Paris: Organization for Economic Cooperation and Development.

Shulman, L. S. (2002). Making differences: A table of learning. *Change*, Vol:34(6), 36-44.