**What is Interdisciplinarity?**

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2/3/2021

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Interdisciplinarity seems to be undefinable. The most practical and common attempts at defining it separate it into different components such as: multidisciplinary, pluridisciplinarity, crossdisciplinarity, transdisciplinarity, and metadiscplinarity. However, according to Moti Nissani, he feels that these subdivisions do very little to explain the theory and practice of interdisciplinarity and any actual definition that is given to this term gives the word too precise a definition in which it does not possess and thus risk missing its true meaning completely.

To know what interdisciplinarity is, one must understand what discipline is, which can be defined as “any comparatively self-contained and isolated domain of human experience which possess its own community of experts.” (Polanyi, 1962) For interdisciplinarity, Nissani (1995) uses the minimalist definition which is bringing together in some fashion distinctive components of two or more disciplines. Multidisciplinarity and Interdisciplinarity differ because while multidisciplinarity does take knowledge from different disciplines it keeps them separated in their respective boundaries whilst interdisciplinarity focuses more on understanding the information, adjusting it, and then keeping it consistent with other information gathered from other disciplines into an organized and coherent whole. (Saganyado, 2017).

To gain a further understanding of what interdisciplinarity is, people apply it to four different realms: interdisciplinary knowledge which involves familiarity with distinctive components of two or more disciplines which is necessary but not sufficient condition for interdisciplinary research. The next realm is, as referenced prior, interdisciplinary research which combines numerous disciplines in the hopes of obtaining new knowledge, operational procedures, or artistic expressions. Similarly, the following realm is interdisciplinary education which merges distinctive components from different disciplines into a single curriculum of study. The last realm of application is interdisciplinary theory which makes its sole purpose the understanding and application of all the prior realms.

The direct application of using an interdisciplinary approach to research questions or workplace problems give the advantage of addressing issues from a multitude of perspectives and may result in the emergence of otherwise overlooked solutions or may help improve already existing ideologies that can be strengthen through the integration of the expertise of different disciplines. An example of such an achievement is how specific subjects can be taught through interdisciplinary education in such jobs that require the information gathered by diverse disciplines and used to further a different field altogether. Such an instance of this is the attempt to gain a wide-reaching point of view on a specific study through the accumulation of multiple different related disciplines. On the other hand, however, this can also develop concerns of losing insight on their own discipline and making the main objective more obscure due to the involvement of too much irrelevant information and the overall discovery of drawing parallels between two distinct disciplines can also pose an issue in that its not always obvious and can take a certain level of creativity as well as insight.

To determine the effectiveness of using a disciplinary approach to a certain situation, it would be helpful to develop a ranking system for interdisciplinary richness of just how much it can contribute to the work by having a definite definition for research on a common level that ranges from pure disciplinary work to the grand scheme of all knowledge. Through Nissani’s experience he suggest that this idea can best be approached through the metaphor of mixing fruits in a serving as some combinations are much more creative and unusual based upon the number of differing fruits as well as the type of fruits used themselves. Furthermore, Nissani states that the most important part is the degree of blending or integration in which they are presented, and the best approach is circumstantial depending on what result is desired.

Interdisciplinary richness of any two exemplars of knowledge, research, and education can be compared by four variables: number of disciplines involved, “distance” between them, novelty and creativity of combination, and degree of integration (Nissani, 1995). The first three variables are may be easier to grasp then the fourth in which “integration” or the how disciplines are united or meshed can be in different forms such as partial or when parallels are simple drawn between the two or completely in which they are fused into a single unit. Which is more optimal can be determined on a basis of situation in which would be able to achieve cohesion better by improving one’s knowledge, research, or instruction rather than simply adding random ideas together. There are a plethora of examples in which the degree of using a disciplinary approach may be more effective than others; one example in which it may not be as efficient described by Nissani is one that describes a situation in which the interdisciplinary extent involved is fairly low is in the case of an astronomer tracing the path of a newly discovered asteroid as the information gathered may be affected by a variety of disciplines, it as a whole uses very few differing disciplines in this particular hyper focused field. On the opposite side of the spectrum however, an example of very involved interdisciplinary research is in the case in which two traditionally different disciplines were used, Psychology and physiology, is the discovery of the effects of a human ulcer in relation to psychological stress. Due to the integration of both distinct concepts, it helped develop the idea of “stomach ulcers” being synonymous with both physiological symptoms and their frequent psychological connection. Furthermore, an example that greatly displays all four variables of interdisciplinary is Gregor Mendel’s studies in genetics as it incorporates two distinct disciplines of biology and statistics. In the current period of research, using different fields for a common goal is fairly routine, however during his time the idea was rare and thus follows the criteria of using multiple disciplines as well as the established “distance” between the two and the creativity was quite revolutionary at the time. Likewise, it follows the necessary integration as it uses both disciplines to further expand his research and information in the topic without displaying an uncanny randomness.

In developing an understanding of what interdisciplinarity is, Nissani’s article helps contribute not only distinct definitions and information on the subject but also concise examples of both strong supporting cases of interdisciplinarity usage but also counterarguing cases in which its usage may be unnecessary which helps the reader gain a deeper of understanding of what exactly the ideal of interdisciplinarity is exactly. There were, however, parts that instead of helping grasp the understanding of what it is seemed to rather illustrate an overly obscure definition of being undefinable in the beginning that may otherwise work against the article by stating its purpose as somewhat redundant.

Overall, the implementation of interdisciplinary theory and approaches to numerous issues and studies may further our knowledge on already established topics and may encourage a new emergence of Renaissance Scholars in the modern-day society that not only immerse themselves into multiple areas in arts, sciences, and humanities but integrate it into every part of their thinking, researching, or teachings.

**References**

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