Research and Statistics in Physical Education

Semester- IV

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Research comprises “creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications.” It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories. A research project may also be an expansion on past work in the field. To test the validity of instruments, procedures, or experiments, research may replicate elements of prior projects, or the project as a whole. The primary purposes of basic research (as opposed to applied research) are documentation, discovery, interpretation, or the research and development (R&D) of methods and systems for the advancement of human knowledge. Approaches to research depend on epistemologies, which vary considerably both within and between humanities and sciences. There are several forms of research: scientific, humanities, artistic, economic, social, business, marketing, practitioner research, etc.

Research is a careful and detailed study into a specific problem, concern, or issue using the scientific method. It’s the adult form of the science fair projects back in elementary school, where you try and learn something by performing an
experiment. This is best accomplished by turning the issue into a question, with the intent of the research to answer the question.

Research can be about anything, and we hear about all different types of research in the news. Cancer research has ‘Breakthrough Cancer-Killing Treatment Has No Side Effects in Mice,’ and ‘Baby Born with HIV Cured.’ Each of these began with an issue or a problem (such as cancer or HIV), and they had a question, like ‘Does medication X reduce cancerous tissue or HIV infections?’

But all I’ve said so far is what research has done (sort of like saying baking leads to apple pie; it doesn’t really tell you anything other than the two are connected). To begin researching something, you have to have a problem, concern, or issue that has turned into a question. These can come from observing the world, prior research, professional literature, or from peers. Research really begins with the right question, because your question must be answerable. Questions like ‘How can I cure cancer?’ aren’t really answerable with a study. It’s too vague and not testable.

Having a question creates an internal state of ‘I need to know something.’ To continue the baking example, this internal state of wanting something is like having a hankering for apple pie. Since you are reading this in a psychology section, we will put a psychological slant on this, and hopefully lose some of the baking metaphors.

–Author