



STUDY OF PHYSICS IN ACHIEVING ENTREPRENEURSHIP DEVELOPMENT

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ABSTRACT:

Entrepreneurship development directly related to economic development of the country. Education is the best way to make good entrepreneur. Entrepreneurship education equips the students with functional knowledge and skill to build up their character, attitude and vision. Physics directly link with entrepreneurship development as it deals with technology. Physics offers the study of principals and concepts of various devices and gadgets. These devices and gadgets may be electronic, electrical, magnetic, mechanical or optical. This study focus on how the physics and their branches are helpful for achieving entrepreneurship development.

Keywords: Entrepreneurship, Physics, Radiations, Technology.

Introduction:

The countries of the world which are facing economic challenges, it has become important for their governments to engage more entrepreneurial activities. Entrepreneurial activities are directly related to economic development of the country. Because, new business are increase the employment levels and other social and economic growth of the country. Therefore, entrepreneurs are bringing up the financial and human resources of the society. As India is a developing country, it requires more successful young entrepreneurs to fulfill the growing needs of the country.

Young students have the potential to do the things with courage and able to fulfill the needs of corporate sectors. Today's generation students do not like to do work under other people, they like to become their own boss. They are search to invent new things. It is responsibility of government, education system and parents to motivate and encourage students to become entrepreneurs. Thus entrepreneurship must be a part of education. Following are the important reasons to inculcate entrepreneurship in education are [1]

- Entrepreneurship education equips students to seek out problem-solving opportunities, empathize with others, think creatively, take risks, accept failure (as part of the growth process) & appreciate the correlation between hard work and success.
- Entrepreneurship education not only encourages, but also requires students to be creative, innovative, and sociable with others.

- In real world, anyone can solve the problem when they identify it properly. Therefore, students need to learn how to identify problems & provide meaningful solutions.
- Students need more grit! Students learn grit throughout the entrepreneurial process because it's both demanding and uncertain.
- There is a demand of people who are different from other people. In the business sense, entrepreneurs seek to solve problems, meet needs, and ease consumer's pain-points by selling their products or services. In the social sense, entrepreneurs seek to solve problems because of the impact their ideas and solutions can have on the world around us.

Entrepreneurship education holds great value for all of our students. The future belongs to the innovators & creators, and entrepreneurship education serves as a great incubator for the types of creative, innovative ideas [2].

Physics deals with technology, therefore physics directly link with entrepreneurship development. Any innovation and development in physics leads to corresponding physics related entrepreneurship development. The study of physics is very important because it play important role in global entrepreneurship development [3]. The objective of this article is therefore to explore the entrepreneurship in physics.

Entrepreneurship in Physics:

Physics is the most basic and fundamental science. It is the basis of many other sciences, including chemistry, biology,

medical science, oceanography, seismology, and astronomy. Physics is crucial to understanding the world around us, the world inside us, and the world beyond us. Physics challenges our imaginations with concepts like relativity and string theory, and it leads to great discoveries, like computers and lasers, that lead to technologies which change our lives—from healing joints, to curing cancer, to developing sustainable energy solutions [4].

Physicists are problem solvers. Their analytical skills make physicists versatile and adaptable so they work in interesting places. Physicists are found in industrial and government labs, on college campuses, in the astronaut corps, and consulting on TV shows. In addition, many physics graduates have become good entrepreneurs by setting up their own businesses on a small scale.

The physics curriculums from secondary school level to university level are include the theoretical knowledge and principal of working of many devices and gadgets. After completion of such curriculums there is requirement of acquisition of practical skills to become an entrepreneur.

Optics is a branch of physics that deals with the determination of behavior and the properties of light, along with its interactions with the matter and also with the instruments which are used to detect it. Optics, in a simple manner, is used to describe the behavior of visible light, infrared light, and the ultraviolet [5]. The physics student may work in any of the many subfields or related fields of optics. Three of the largest areas of optics are physical optics, which is concerned with the wave properties of light; quantum optics, which studies photons or individual particles of light; and geometrical optics, which involves optical instruments used to detect and measure light [6]. Optics students apply the concepts of optics to research, design, and develop applications in a broad range of areas. In small scale, the theoretical knowledge with practical skill of mirrors and lenses help to make and repair eye-glasses, projector, microscope, telescope, camera etc. this work transform physics students to good entrepreneurs.

Electronics is also the branch of physics deals with the emission, behaviour and effects of electrons and with electronic devices. Electronics encompasses an exceptionally broad range of technology. In Electronics, student studied the circuits and working principal of various devices. Physics

graduate can go for practical training or brief apprenticeship to learn and perfect in the act of repairs of radio, television, handsets, generators, computers and every other electronic devices. This branch of physics also provides the theoretical background of these gadgets. Electronics and circuit analytical networks provide all theoretical knowledge of computer and electrical works. But this knowledge is effective when their practical skill training is provided properly. The practically skilled electronics graduates have opportunity to get job in electrical, electronics and computer hardware field [7]. Electronics and Communication involves the transmission of information across channels like coax cable or optical fiber. It also deals with designing equipments such as routers, switches, fiber optics and electronic switching systems. Physics students have ample opportunities in this field. Electronics and Communication specialists can work in both private and public firms. Professionals may work in nearly every industry such as commercial, industrial, military or scientific companies. Job opportunities are available in both software and electronics companies. One may also enter into research and development [8].

Thermodynamics deals with heat and temperature and their relation with energy and work. In this branch of physics, student study about change of state, inter conversion from work to energy and vice-versa, flow of heat, types of systems and different processes. The conceptual knowledge of this branch is useful in many devices such as heat engine, refrigerator, solar panel and cooker, pressure cooker etc. Heat engine such as petrol engine and diesel engine are used in vehicles. Therefore physics student having practical knowledge of these concept, able to work in related businesses.

Nuclear physics deals with the constituents, structure, behaviour and interactions of atomic nuclei. In the modern age, nuclear physics has become very wide in its scope and has been applied in many fields. It is used in power generation, nuclear weapons, medicines, magnetic resonance, imaging, industrial and agricultural isotopes, and more [9]. Atomic physics deals with the composition of the atom apart from the nucleus. It is mainly concerned with the arrangement and behaviour of electrons in the shells around the nucleus. Thus, atomic physics focuses on isolating atoms and ions,

examining electron configurations and the collision or splitting of atoms for energy. An atomic physicist studies the behavior of electrons, protons, light, atoms and simple molecules. They also conduct research to understand atomic energy, which is the source of power for nuclear reactors, nuclear generators and nuclear weapons [10].

Alpha rays, Beta rays, Gamma rays, X-rays, ultrasounds are some radiations and their various applications studied in physics. Alpha radiation is used to detect the smoke. It ionizes the air inside the detector. Smoke from a fire absorbs alpha radiation, altering the ionization and triggering the alarm. Beta radiation is used to monitor the thickness of materials such as paper, plastic and aluminium. Gamma radiation is used in the treatment of cancer, testing equipment and sterilizing medical instruments. X-ray photographs are used for medical diagnosis. Soft X-rays penetrate flesh more readily than they do bone, which makes X-ray 'shadow' photographs possible. In industry, X-ray photographs are used to check for flaws in welded metal joints. Ultrasound machines are used to scan human abdomen to reveal any internal disorder or to reveal the position, age, size etc of an unborn baby in the womb. These concepts are theoretically treated via physics curriculum. Through undergoing practical skill training in the use of such radiation producing machines, the physicist will deliver effectively well if he/she chooses to make use of any or all of the above principle related machines. This can make a full vocation and acquisition of many of such machines, their sales and services can make the physicist an entrepreneur [7].

Conclusion:

Physics brings a broad perspective to any problem. Physics graduate learn how to consider any problem they are not bound by context. They are also expert to make any decision. This inventive thinking makes

physicists desirable in any field. Even when the job market is slow, physicists get job offers-well-paying jobs. Employers know that a physicist brings additional skills with expertise and pay accordingly.

Physics is practical and skill oriented subject. Physics graduate, have top-notch technical knowledge. For physicists, innovation is more about developing creative ideas or solutions to problems often using computer-based software technology. On the basis of subject knowledge with practical skill, physics graduates able to setup a various small scale to large scale business. So physics student are a good candidate to be a successful entrepreneur.

References:

1. <http://www.indiaeducation.net/management/building-entrepreneurship-skills-in-students.html>
2. <https://www.teenpreneurbootcamp.com/5-reasons-why-we-should-be-teaching-entrepreneurship-in-school/>
3. *Utibe and Agah, 2014. Entrepreneurship Development Using Physics Education International J Ext Res. 2:1-6.*
<http://www.journalijer.com>
4. <https://www.aps.org/programs/education/whystudy.cfm>
5. <https://byjus.com/physics/optics/>
6. <http://career.iresearchnet.com/career-information/optical-engineer-career/>
7. Prospects of physics education in achieving vocational and entrepreneurship development ifeanyi i. Adonu
8. <https://www.plancess.com/jee-mag/electronics-and-communication-engineering-career-scope-and-growth-prospects/>
9. <https://owlcation.com/stem/Physics-Definition-and-Branches>
10. <https://work.chron.com/atomic-physicist-job-description-23143.html>

