1.0 INTRODUCTION:

The Distance Education has been recognized as an appropriate means of democratization of education system. Technological developments inside and outside the education system have contributed towards the transformation in the Distance Education (DE). With the availability of limited resources it has been expected that the DE can play its role effectively in the process of educational reforms in the country. Following the pattern of the U.K. Open University, the establishments of Indira Gandhi Open University (IGNOU) and few State Open Universities have strengthened the momentum of DE. Distance education is encountered all over the world. It developed in response to difficulties faced in bringing traditional face-to-face education to certain students. It is offered at all levels, from primary to university, for general education, training, and retraining. Its importance is growing, partly because it meets current societal needs and partly because technological developments have widened its applicability. The number and size of institutions dedicated to distance education is in creating, and more and more conventional institutions are using techniques “borrowed” from distance education to make their own teaching more effective, efficient, or flexible. Kanwar & Daniel (2010) stated that distance education is the delivery of learning or training to learners who are separated, mostly by time and space, from those who are teaching and training. As learners and teachers are separated by time and space, some kind of technology or media must be used for communication between them.

Open systems have an edge over conventional systems as the latter are selective and thus create class barriers among students and gaps in societies. Open institutions on the other hand take education to the doorsteps of learners. In the open learning system, education can be imparted at any time in life, as it doesn’t believe that education can be best given only when one is a whole-time student attending classes regularly. The idea that education is more meaningful and effective when one has gathered experience is one of the pillars of the open learning systems. In conventional system, education is a whole-time business, in open systems education and work can go together and education is spread throughout life. From that angle open learning seems to contribute to the emergence of the learning society more effectively than conventional systems.
According to Mohanty (2001), The Distance Education Programmes are:

- Need-based,
- Localised,
- Individualised with distance communication,
- Participatory,
- Process-oriented rather than technique-oriented,
- Self-reliance and continuous self-learning, and
- Sustainable.

Open and distance learning is fast becoming an accepted and in-dispensable part of the mainstream of educational system in both developing countries, inspite of the fact that the world still suffers from intolerable inequalities not only at the international levels but also within nations. There is a definite separation of teachers and students during teaching process, where use of educational media to unite teachers and students and carry educational course content is accomplished and provision of two-way communication between teachers and students [two way-interaction] through information and communication technologies are used. In distance learning other media are also used which include electronic mail (e-mail), discussion forums or bulletin board, real time conferencing, desktop video, Group Ware Programs (GWP), File Transfer Program (FTP), Computer Simulation Programs (CSP) etc. Other information & communication technologies used in open and Distance Learning include Just in Time (JIT) lecture method, Intelligent Tutoring Systems (ITS) Text-Based computer Based Training (CBT), Recorded Video/Digital video, live satellite broadcasting, Radio Broadcasting, Computer Based Multimedia, lecturer on Site Method or facilitator, Virtual Learning (integrated simulation programs is a computer, satellite and the Internet- The AVU model) etc. The term open and distance learning reflects both the fact that all or most of the teaching is conducted by someone removed in time & space from the learner, and that the mission aims to include greater dimensions of openness and feasibility, whether is terms of access, curriculum or other elements of structure (UNESCO, 2002). Distance learning has been recognized as the acquisition of knowledge & skills through mediated information & instruction encompassing all technologies and other forms of learning at a distance.
Open Distance Learning is educational approaches and a set of techniques for teaching learning which reach learners in places that are convenient or accessible to them concluding opening up learning opportunities to a wider range of people, gaining and providing of flexible educational opportunities to access to multiple modes of knowledge and skills.

According to the terms open learning and distance education represent approaches that focus on opening access to education and training provision, freeing learners from the constraints of time and place, and offering flexible learning opportunities to individuals and groups of learners. Open and distance learning is one of the most rapidly growing fields of education, and its potential impact on all education delivery systems has been greatly accentuated through the development of Internet-based information technologies, and in particular the World Wide Web (UNESCO, 2002).

The population of India is increasing continuously and at present it is more than 1,280 million as of August 28, 2015 (indiaonlinepages.com) and is expected that in the next two decades it will be around 1,500 millions. Several measures have been taken to create awareness, training, advantages and disadvantages of small and large families and other such measures by Government of India. There is an impact of such measures. However, it will have its proper advantage in next ten years. The efforts for educating the younger generation are enormous. The Federal and Provincial Governments have launched a number of programmes to establish new Universities, Institutions and Colleges. At present there are about 500 Universities including Federal, Provincial, Private and Deemed to be Universities, and about 25,000 Colleges in the country. Even then we require more than triple of these numbers to cope up the aspirations of young generation for their higher education. The horizontal expansions of Institutions including Open Universities are in almost all the provinces in India and have contributed a lot. However, quality has to be ensured substantially. There have been a number of studies to find out the impact of education imparted by Open Universities which have started their role since last century (Tiwari, I., 2010).
Sahoo, P.K. (1994) reviewed that Open Distance Education in India has been popularized on the ground of democratization of education at different levels in the country. On the one hand distance media like Radio and TV have been used to strengthen traditional system of education and on the other separate identities of Distance Education system of education are maintained in the forms of correspondence courses, Open School, Open University, Distance Education Courses, etc. According to Open Distance Education as an educational process in which teachers and learners are separated in space and/or time for some or all of study and in which the learning materials take over some of the traditional role of the teacher. Exactly the gap between the learners and the institution is minimized through media and materials-print and non-print (audio, video and digital), radio programme, TV programme, audio conferencing, teleconferencing and internet. Learners learn through occasional meeting with tutors and with peer group. Learning materials will play a central role, incorporating a variety of media and, in most system, provision is made for students to interact with tutors and other students as a means of support. Many distance education programmes include some face-to-face contact, either at local center or in weekend or residential schools.

Besides, Sahoo, P.K. (1994) concluded that the world wide view on Distance Education (DE) reveals that the innovative system has been popularized all over the world. Whether it is the case of developed countries or developing countries DE has been valued as a means of democratization of education and open learning. The system started its base as correspondence course and got autonomous status in the form of open universities all over the world. Firstly, DE has been popularized as a means of tertiary and continuing education. Gradually it has been extended towards school education. Of course, its popularity is very much emphasized in terms of further education of educated adults, in-service education and alternative mode of higher education.

MHRD (2015) overviewed that Open and Distance Learning (ODL) system is a system wherein teachers and learners need not necessarily be present either at same place or same time and is flexible in regard to modalities and timing of teaching and learning as also the admission criteria without compromising necessary quality considerations. ODL system of the country consists of Indira Gandhi National Open University (IGNOU),
State Open Universities (SOUs), Institutions and Universities offering education and includes Correspondence Course Institutes (CCIs) in conventional dual mode universities. This is becoming more and more significant for continuing education, skill updation of in service personnel and for quality education of relevance to learners located at educationally disadvantaged locations.

In the present study researcher has selected two open universities for the study: IGNOU and UPRTOU:

**Indira Gandhi National Open University (IGNOU):**

The Indira Gandhi National Open University was established by an Act of Parliament in 1985 to achieve the following objectives:

- Democratising higher education by taking education to the doorsteps of the students.
- Providing access to high quality education to all those who seek it, irrespective of age, region, or formal qualifications.
- Offering need-based academic programmes by giving professional and vocational orientation to the courses.
- Promoting and developing distance education in India.
- Setting and maintaining standards in distance education in the country — as an apex body for the purpose.

Some of the special features of the Open and Distance Education System currently practiced by IGNOU are:

- Relaxed entry requirements
- Provision of equal opportunity of admission to people from all over the country
- Provision of learning at one’s own pace, place and time
- Cost-effective and cost-efficient educational operations
- Multi-media approach in the preparation of course packages
- Self-instructional Printed and Audio/Video course materials
- Network of student support services throughout the country
- Face-to-face Counselling and Tele-counselling
- Continuous evaluation through assignments
- Provision of term-end examination two times a year
- Interactive Satellite Aided Communication Network (Teleconferencing)
- Interactive Radio Counselling.

**Delivery systems of IGNOU**

The methodology of instruction in this University is different from that of the conventional Universities. The Open University System is more learner-oriented and the student is an active participant in the teaching-learning process. Most of the instructions are imparted through distance rather than face-to-face communication. The University follows a multimedia approach for instruction. It comprises:

a) **Print Material:** The printed material of the programme is supplied to the students in batches of blocks for every course (on an average of 5 blocks per course). A block which comes in the form of a booklet generally comprises 3 to 5 units.

b) **Audio-Visual Material Aids:** The learning package contains audio and video cassettes which have been produced by the University for better Clarification and enhancement of understanding of the course material given to the student. A video programme is normally of 25-30 minutes duration. The audio tapes are run and video cassettes are screened at the study centres during the hours of the counselling session. The video programmes in Management Studies are telecast on DD (National) every Friday at 6.30 a.m. Some of the selected stations of All India Radio also broadcast the audio programmes. Students can confirm the broadcast schedule for the programmes from their study centres. The information is also provided on the University website.

c) **Counselling Sessions:** Normally, counselling sessions are held as per a schedule drawn before hand by the Study Centre Coordinator. These are held on weekends, that is, Saturday and Sunday. There will be 6 counselling sessions of 21/2 hours duration for each course in face-to-face mode. Additionally, the University conducts live phone-in-programmes through various stations of All India Radio. Schedule of these phone-in programmes would be available at study centres. Live teleconferencing sessions are also conducted via satellite through interactive TV channel.
Uttar Pradesh Rajarshi Tandon Open University (UPRTOU):

The Uttar Pradesh Rajarshi Tandon Open University, Allahabad, was established under Act No. 10/1999 passed by U.P. Legislature and assented to by the Governor of U.P. on March 24, 1999. It is named after Bharat Ratna Rajarshi Purusottam Das Tandon ji, an illustrious son of Mother India. The University plans to provide access to higher education for large segments of population and, in particular, disadvantaged groups such as those living in remote and rural areas including working people, homemakers and other adults who wish to upgrade or acquire knowledge through studies. It will also make efforts to promote acquisition of knowledge in a rapidly developing and changing society and continually offer opportunity for upgrading knowledge, training and skills in the context or innovations, research and discovery in all fields of human endeavor.

Objectives of UPRTOU:

(1) The University shall promote dissemination of learning and knowledge through distance education system to a large segment of the population and shall, in organizing its activities, have due regard to the objects specified in the schedule.
(2) The University shall Endeavour through education, research, training and extension to play a positive role in the development of the state, and, based on the rich heritage of the state, to promote and advance culture of the people of India and its human resources and towards this end, it shall …..
(3) Provide access to higher education for large segment of the population, and in particular, the disadvantaged groups such as those living in remote and rural areas including working people, house-wives and other adults who wish to upgrade or acquire knowledge through studies in various fields.
(4) Promote acquisition of knowledge in a rapidly developing and changing society and continually offer opportunity for upgrading knowledge, training and skills in the context of innovations, research and discovery in all fields of human endeavors.
(5) Provide an innovative system of university level education, flexible and open, in regard to methods and pace of learning, combination of courses, eligibility for
enrolment, age of entry, conduct of examination and operation of programs with a view to promote learning and encourage excellence in new fields of knowledge.

(6) Contribute to the improvement of the educational system by providing a non-formal channel complementary to the formal system, by encouraging transfer of credits and exchange of teaching staff and by making wide use of texts and other software developed by the University.

(7) Provide education and training in various arts, crafts and skills of the country in general and the state in particular and simultaneously insure raising their quality and improving their availability to the people.

(8) Provide or arrange training of teachers required for such activities or institutions.

(9) Provide suitable Post-Graduate courses of study and promote research.

Mission and Vision of UPRTOU:

(1) To reach the un-reached.

(2) To universalize opportunities of education.

(3) To provide opportunities of higher education to the weaker sections.

(4) To equalize opportunities in higher education.

(5) To provide quality education to one and all.

(6) To become a virtual university.

The open universities in India have created an impact on higher education by developing a wide range at programmes covering conventional and professional areas at different level. In the present study researcher wanted to study about the ‘learning style’ as well as ‘the process of development of professional skills’ among the learners of different professional courses, studying in different open universities of India.

1.1 Focus of the study:

The major focus of the study is learning style of ODL mode students and the process adopted in ODL mode for development of professional skills.

1.1.1 Learning Styles:

Learning styles are characteristic strengths and preferences of the learners for responding to the stimuli in environment and processing the information. It is a
behavioral pattern developed for any new learning. This approach to learning emphasizes the fact that individuals perceive and process information in very different ways. The learning style theory implies that how much individuals learn has more to do with whether the education experience is geared toward their particular styles of learning than whether or not they are “smart”.

A comprehensive definition for learning styles that has been adopted by leading theorists in the field is given by Keefe (1979). According to Keefe the learning styles can be defined as “the composite of characteristic cognitive, affective and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment.”

According to Encyclopaedic Dictionary of Education (2005), "Learning style refers to preferred mode of problem solving, thinking or learning used by an individual”.

A few definitions are noticed in Internet glossaries:-

- The manner, in which a learner perceives, interacts with and responds the learning environment. Components of learning style are the cognitive, affective and physiological elements, all of which may be strongly influenced by person’s cultural background.

- A preferential mode, through which a subject likes to master learning, solve problems, thinks or simply react in pedagogical situation.

- A consistent pattern of behaviour and performance by which an individual approaches educational experiences, learning styles is derived from cultural socialization and individual personality as well as from the broader influence of human development.

- Learning styles reflect the underlying courses of learning behaviour. They help in determining educational conditions under which the learner is most likely to learn. These are the ‘clues’ which reveal how the learners mind relate and responds to the world. Learning styles are often related to cognitive, affective and physiological domains.
Mathur (2004) pointed out that Learning strategies and styles are many times interchangeably used, but styles has different connotations: Style refers to a habitual use of a class of similar strategies: for example, an analytic style could include the use of strategies such as breaking the problem into sections, writing down known information, using algebra and arithmetic and so on (Kirby, 1988). She concluded that, style is a stable trait like consistency in the characteristic way an individual approaches various cognitive tasks, while the way the task is handled is the strategy the individual adopts.

Griggs (1991) pointed out that, it is important to recognize that learning styles are not related to intelligence, mental ability or actual learning performance and that no learning style can be said to be better than another. That is the best learning style for any individual in specific to the individual and dependent on that individuals cognitive abilities and the learning situation they are in.

A comprehensive definition for learning styles that has been adopted by leading theorists in the field is given by Keefe (1989) (quoted by Griggs, 1991),

“Composite of characteristic cognitive, affective and psychological factors that serve as relatively stable indicators of how a learner perceives, interacts with and responds to the learning environment.”

-Keefe (1989)

McLoughlin (1991), provides definition of similar terms relating to learning styles in the following:

<table>
<thead>
<tr>
<th>Term</th>
<th>Explanation</th>
</tr>
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<tbody>
<tr>
<td>Learning Preference</td>
<td>Favouring one method of teaching over another.</td>
</tr>
<tr>
<td>Learning Strategy</td>
<td>Adopting a plan action in the acquisition of knowledge, skills or attitudes.</td>
</tr>
<tr>
<td>Learning Styles</td>
<td>Adopting a habitual and distance mode of acquiring knowledge.</td>
</tr>
<tr>
<td>Cognitive strategy</td>
<td>Adopting a plan of action in the process of organizing and processing information.</td>
</tr>
<tr>
<td>Cognitive style</td>
<td>A systematic and habitual mode of organizing and processing information.</td>
</tr>
</tbody>
</table>
1.1.1.1 Kolb’s learning styles:

Kolb’s experiential theory provides a model of learning and adaptation processes consistent with the structure of human cognition and the stages of human growth and development. He conceives learning as a four stage cycle, which depicts generic adaptive abilities. Wolfe and Kolb (1984) observes that an effective learner requires all of the four abilities: the learner must be able to involve herself/himself fully or completely, openly and without bias in new experience (Concrete Experience: CE), She or he must be able to observe, interpret and reflect on these experience from many perspective (Reflective Observation: RO) s/he must be able to create concepts that integrate her/his observations into logically sound theories (Abstract Conceptualization: AC), and she must be able to use these theories to make decisions and solve problems [Active Experimentation: AE]. However, Kolb argues that each individual has a preference for one way of approaching learning, a dominant style.

The four learning styles identified by kolb are the converger, the diverger, the assimilator and the accommodator. Above figure presents four learning styles as the combination of four dimension of learning process.

**Converger:**

The convergers' dominant learning abilities are abstract conceptualization (AC) and active experience (AE). People with this learning style are best at finding practical uses for ideas and theories. They tend to be effective problem solvers and decision makers. They like solving problems and finding practical solutions. Their strength lies in practical applications of ideas. They are precise and logical, abstract and systematic. They are good at hypothetical-deductive reasoning and focussing it on specific problems. Converges are relatively unemotional, preferring to deal with things rather than people. Convergers excel in the fields like Engineering, Business, and Ecology etc. However convergers may be solving the wrong problems in very effective way and may get involved in hasty decision making.
Kolb’s learning styles

Concrete Experience
(Stage 1-CE-Feeling)

Type 1: Diverger
Type 4: Accommodator

Type 3: Coverger

Type 2: Assimilator

Abstract Conceptualisation
(Stage 3-AC-Thinking)

Active Experimentation
(Stage 4-AE-Doing)

Reflective Observation
(Stage 2-RO-Watching)

**Diverger:**

The divergers' show the opposite learning strengths of the convergers. They are best at concrete experience (CE) and reflective observation (RO). People with this learning style are best at viewing concrete situations from many different points of views. They are also good at understanding people. Their greatest strength in their imaginative ability. They are good at generating ideas and can view situation from different angles. Divergers tend to be interested in people and emotional elements. They have broad cultural interests and tend to specialize in the arts. Therefore it characterizes individuals from humanities and liberal arts background. The divergers tend to become counsellors, organizational development, specialists and personnel managers. Diverges however, tend to paralyzed by alternatives and, thus, cannot make decisions.

**Assimilator:**

The assimilators' dominant learning abilities are abstract conceptualization (AC) and reflective observation (RO). People with these learning styles are best at understanding a wide range of information and putting it into concise, logical form. They are good at planning, creating models and developing theories. Their greatest strength lies in her/his ability to create theoretical models. They possess characteristics such as sound logic, precision, inductive reasoning. They have ability to assimilate wide-ranging ideas and create multiple perspectives. They are analytic, abstract and good at organizing information and designing experiments. The assimilators are less interested in people and more concerned about abstract concepts. They are not interested in observing practical applications of theories. This learning style is more characteristics of the basic science and mathematics rather than applied science. The assimilators excel in research and development area. However assimilators build “castles in air, and not find practical applications to their ideas”.
Accomodator:

Accomodator has the opposite strengths of the assimilator. The accomodators are best at concrete experience (CE) and active experimentation (AE). People with this learning style have the ability to learn primarily 'from hands-on' experience. They are good at getting things done, taking risks, and assuming leadership. Their strengths lie in doing things and involving themselves in new experiences. They are intuitive risk-takers and open-minded. In situations where the theory or pre-plan do not fit the facts, they would discard or modify the plans or theories. The accomodators are at ease with people, but they are found pushy & impatient. They are generally found in technical or practical fields such as business. In organizations the accommodators are found in action- oriented jobs, often in marketing or sales. The problem with the accommodators is that they may be involved in trivial improvements or meaningless activity.

1.1.1.2 Grasha-Reichmanns' Student Learning Styles:

Grasha & Reichmanns’ student Learning Styles focuses on students' preferences for the learning environment. They identified 6 different styles; Independent, Avoidant, Collaborative, Dependent, Competitive and Participant.

1. Independent Style:

Independent students prefer independent study; self paced instruction, and would prefer to work alone on course projects than with other students. They like to think for themselves and are confident in their learning abilities. They prefer to learn content that they feel is important. They are confident learners that don't have the need to confer with others.

2. Dependent Style:

Dependent learners look to the teacher and to peers as a source of structure and guidance and prefer authority figure to tell them what to do. They show little intellectual curiosity and who learn only what is required.
3. Competitive Style:

Competitive students learn in order to perform better than their peers do. They see the classroom as a win-lose situation in which they must win. They like to be the centre for attention and to receive recognition for their accomplishments in class.

4. Collaborative Style:

Collaborative learners learn through sharing and cooperating with the teacher and their peers. They prefer lecturers with small group discussion and group projects.

5. Avoidant Style:

Avoidant learners are not enthusiastic about learning content and attending class. They are reluctant to learn and uninterested in class activities. They do not enjoy learning and generally try to avoid it all costs. Do not participate with teachers and students in classroom. They are uninterested and overwhelmed by what goes on in class. They may not even want to attend class.

6. Participant Style:

Participant learners are eager to learn and enjoy classroom activities and discussion. They took responsibility for their learning, and are eager to do as much class work as possible. They are highly motivated to meet the teachers’ expectations. They are good citizen in class. Enjoy going to class and take part in as much of the course activities as possible. Typically eager to do as much of the required and optional course requirements as they can.

1.1.1.3 Impact of Learning Styles Theory on Education:

a) Curriculum:

Educators must place emphasis on intuition, feeling, sensing and imagination, in addition to the traditional skills of analysis, reason, and sequential problem solving.
b) **Instruction:**

Teachers should design their instruction methods to connect with all four learning styles, using various combinations of experience, reflection, conceptualization, and experimentation. Instructors can introduce a wide variety of experiential elements into the classroom, such as sound, music, visuals movement, experience and even talking.

c) **Assessment:**

The educational institution should employ a variety of assessment techniques, focusing on the development of “whole brain” capacity and each of the different learning styles.

From the above discussion it is explored that, by paying attention to a learner, unique style of learning, a teacher can alter his or her preparation and instructional method accordingly. Teacher can plan group instruction or individualized instruction for students depending on the students needs. In order to maximize a student learning potential, it is important for teacher to ensure that their methods of instruction match the needs of the learners in their class. For the learner, it is important that she/he knows his or her own style of learning, so that s/he can choose her course accordingly. If a learner is an independent learner it would make sense for him or her to choose online course that involves little or no interaction with others; whereas if s/he is a dependent learner, he or she needs more contact with teacher and peers, and so, would be better suited to an interactive classroom setting.

**1.1.2 Professional Development:**

Professional development is the process by which a person maintains the quality and relevance of professional services throughout his/her working life. It has been defined by the Institute for continuing professional development as:

"The systematic maintenance, improvement and broadening of knowledge and the development of personal qualities necessary for the education of professional and technical duties throughout the practitioners’ working life”.

According to Principles for Professional Development, Washington, DC: AFT 2002, “Professional development is a continuous process of individual and collective
examination and improvement of practice. It should empower individual educators and communities of educators to make complex decisions; to identify and solve problems, and to connect theory, practice and student outcomes. Professional development also should enable teachers to offer students the learning opportunities that will prepare them to meet world-class standards in a given content areas and to successfully assume adult responsibilities for citizenship and work”.

According to Mohanty (2001), Professional Development means updating, strengthening and sharpening of the professional competencies and development of understanding anxieties in the different professional duties. An individual’s personality has many facets like social, emotional, aesthetic, moral etc. and he/she continues to improve or deteriorate in different dimensions which are inter-related and inter-dependant as change in any one aspect is likely to influence other aspects of personality. Therefore, professional dimension of an individual personality plays an important role in shaping his/her overall personality. Professional development is felt essential for the wholesome development of an individual’s personality and his performance at the maximum level.

Professional development can also be simply defined as the process of improving staff skills and competencies needed to produce outstanding educational results for students. Professional development refers to skills and knowledge attains for both personal development and career advancement. Professional development encompasses all types of facilitated learning opportunities ranging from college degrees to formal coursework, conferences and informal learning opportunities situated in practice. It has been described as intensive and collaborative, ideally incorporating an evaluative stage. There are a variety of approaches to professional development, including consulting, coaching, communities of practice lesson study, mentoring, reflective supervision and technical assistance.

1.1.2.1 Importance of Development of Professional Skills:

Professional development is not a new concept, but it is becoming increasingly important. The amount of knowledge and the amount of information continues to increase. Materials science and Engineering has become knowledge intensive we have entered the knowledge-based economy. In this new world, it is impossible for learners to
know all that there is to know, yet access to the knowledge base in increasingly readily available. So what will make learners good materials technologists, professionals etc. rather than poor ones, is that our knowledge is more relevant, and more current, and is applied more efficiently and effectively. Within organizations modern quality management systems demand that qualified people are in place to make decisions. These are strong, compelling reasons for professional development skills.

In the present changing scenario Teachers are also required to continuously update and upgrade their knowledge, skills and competencies throughout their life to avoid professional obsolescence. The Education Commission (1964-66) of India very clearly specified this role of teachers as “no system can rise above the level of its teachers”. Teachers like any other professionals need to update their skills and knowledge base at regular intervals to keep informed of the changes in the field of education and expectations from them to transform those changes into reality. Grundy and Robinson (2004) identify three interconnected purposes of Continuous Professional Development (CPD): extension, growth and renewal. Extension is through introducing new knowledge or skills to a teachers' repertoire, growth is by the development of greater levels of expertise and renewal is achieved through transformation and change of knowledge and practice.
The broad objectives of the Distance Education programme mode include development of the learners. A feeling of personal fulfillment, self-confidence, self-reliance, professional pride, commitment and satisfaction grows out of the professional competencies, skills, attitudes and values. Thus, the professional development of the learners has to promote appropriate technologies and behavior patterns, attitudes and values leading to action and perform his role as effectively as possible.

1.1.2.2 Professional courses offered by the Open Universities:

The Open Universities cater to the continuing professional development needs of thousands of executives’ teachers and medical professionals every year by offering flexible accessible and value-for-money courses. Each course is based on ability to blend learning delivery according to personal or organizational situations, rather than requiring regular classroom attendance. The courses are designed in collaboration with professional bodies/councils that match the needs of different sectors. The Open Universities provide technical and professional programmes in four areas viz; Teacher Education, Health Education, Management Education & Rural Development and Agriculture Education through distance mode.

Since open universities provide professional skill oriented courses through distance mode its clientele may possess different learning orientations to cope with its requirement. It is significant to relate teaching learning process management skills development with learning styles of distance learners so that appropriate strategies can be adopted to develop curriculum, instructional process and evaluation system of professional courses. The presented study is related with two most popular professional courses offered by majority of open universities i.e. B.Ed. and MBA.

1.1.2.2.1 Bachelor of Education (B.Ed.) Programmes of Open Universities:

The B.Ed. programme is training programme for professional development of untrained experienced teacher working in government or government recognised schools. The B.Ed. was launched by Kota Open University first time in the country. IGNOU launched B.Ed. programme in 2001 and UPRTOU launched in 2003 the same. Now days there are many open universities organizing B.Ed. for above said purpose. In following table 19 universities are offering distance mode B.Ed. programme. The requirements of teaching experience for B.Ed. are given in Table 1.0 along with course duration.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>University Name</th>
<th>Maximum Duration of Course (in year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Andhra University - School of Distance Education.</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Annamalai University - Directorate of Distance Education</td>
<td>-</td>
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<tr>
<td>3.</td>
<td>Bangalore University - Directorate of Correspondence Course &amp; Distance Education</td>
<td>2</td>
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<tr>
<td>4.</td>
<td>Bharathidahan University - Centre for Distance Education</td>
<td>2</td>
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<tr>
<td>5.</td>
<td>Himachal Pradesh University - International Centre for Distance Education and Open Learning</td>
<td>2</td>
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<tr>
<td>6.</td>
<td>Indira Gandhi National Open University</td>
<td>2-4</td>
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<tr>
<td>7.</td>
<td>Jamia Millia Islamia Dr. A.S. Centre Distance and Open Learning</td>
<td>2-6</td>
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<tr>
<td>8.</td>
<td>Kakatiya University - School of Distance Learning &amp; Continuing Education</td>
<td>2</td>
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<tr>
<td>9.</td>
<td>Karnataka State Open University</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>Kota Open University (V.M. Open University)</td>
<td>2</td>
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<td>11.</td>
<td>Madhya Pradesh Bhoj (Open) University</td>
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<td>12.</td>
<td>Maharishi Dayanand University-Directorate of Distance Education</td>
<td>2</td>
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<tr>
<td>13.</td>
<td>Punjab University - Department of Correspondence Studies.</td>
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<td>14.</td>
<td>Tamilnadu Open University</td>
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<td>15.</td>
<td>Sri Padmavati Mahila Visvavidayala-Distance Education Centre</td>
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<td>16.</td>
<td>Sri Venkateswara University-Directorate of Distance Education</td>
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<td>17.</td>
<td>University of Jammu- Directorate of Distance Education</td>
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<td>18.</td>
<td>Uttar Pradesh Rajarshi Tondon Open University</td>
<td>2-4</td>
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<td>19.</td>
<td>Yashwantrao Chavan Maharashtra Open University</td>
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</table>
1.1.2.2 Objectives of Distance Mode B.Ed. Programme:

This programme is meant to systematize and give a method and structure to the experiences of B.Ed. trainees. Specially this programme aims at enhancing the professional competencies and skills of the teachers working in elementary, secondary and senior secondary schools, thus, it enables B.Ed. trainees for development of following competencies:

I. Competence to teach the subject(s) of specialization of B.Ed. trainees on the basis of the accepted principles of teaching and learning.

II. Skills, understanding, interests and attitudes which would enable B.Ed. trainees to foster all round growth and development of their students.

III. Skills in identifying, selecting, innovating and organizing learning experiences for teaching school subjects.

IV. Understanding of psychological principles of growth and development, individual differences and cognitive, psychomotor and attitudinal learning.

V. Skills in guiding their students in order to enable them to solve their personal as well as academic problems.

VI. Ability to undertake investigatory projects and action research to improve the school system.

VII. Understanding the role of school in a changing society.

VIII. Understanding the role of home, school and community in shaping the personality of the child, and help to develop an amicable home-school relationship for mutual benefit.
1.1.2.2.3 Master of Business Administration (MBA) Programme of Open Universities:

MBA programmes have lately been in a great demand, and number of enrolments has gone many notches up in last one decade or so. Due to its huge job potential and great career prospects, MBA courses have always attracted aspirants from across strata of society. Whether full-time or part time, whether regular or distance learning basis, MBA has attracting more and more students each year. There are some very popular universities in India which offer MBA programme on distance learning basis. Due to their flexible study, economical fee structure and better timing, a growing number of students are joining these distance learning MBA universities to continue with the job and do study as well. The main objectives of universities/institutions are: To encourage the study of theory and practice of different Managerial skills and to promote information’s on banking, finance, human resource and other related subjects through lectures, discussions, projects and other educational and training programmes which may be organised from time to time.

IGNOU School of Management Studies, Starting its operation in 1987, with the launch of Diploma in Management as the pilot programme of the University, the School of Management Studies (SOMS) today offers eleven programmes in Management. These Programmes are offered on a modular pattern and in different combinations lead to a Diploma, a Post Graduate Diploma or the MBA. In terms of the spread and enrolment, the IGNOU’s Management Programmes represent one of the largest Management Programmes in the world. UPRTOU School of Management Studies has been established with a view of imparting management education to persons of industry and fresh graduates. UPRTOU launched MBA (Master of Business Administration) course in 2003.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of University</th>
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<tbody>
<tr>
<td>1.</td>
<td>Indira Gandhi National Open University (IGNOU), Delhi.</td>
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<tr>
<td>2.</td>
<td>Symbiosis International University, (Symbiosis Centre for Distance Learning), Pune.</td>
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<td>3.</td>
<td>Institute of Management &amp; Technology (IMT), Ghaziabad.</td>
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<td>4.</td>
<td>Sikkim Manipal University, Sikkim.</td>
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<td>5.</td>
<td>Welingkar Institute of Management.</td>
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<td>6.</td>
<td>Maharishi Dayanand University, Rohtak, Haryana.</td>
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<td>7.</td>
<td>ICFAI Business School, Hyderabad.</td>
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<td>8.</td>
<td>Amity University, Noida.</td>
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<td>9.</td>
<td>Annamalai University, Tamil Nadu.</td>
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<td>12.</td>
<td>IIM Ahmedabad.</td>
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<td>13.</td>
<td>Lovely Professional University, Punjab.</td>
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<td>15.</td>
<td>University 18, Gurgaon, India.</td>
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<td>17.</td>
<td>University of Madras, Madras.</td>
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<td>18.</td>
<td>Vardhaman Mahaveer Open University (VMOU), Kota.</td>
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<td>19.</td>
<td>Osmania University, Hyderabad.</td>
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<td>20.</td>
<td>Karnataka State Open University (KSOU), Mysore.</td>
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<tr>
<td>22.</td>
<td>Uttar Pradesh Rajarshi Tandon Open University (UPRTOU), Allahabad.</td>
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<tr>
<td>23.</td>
<td>Dr. B.R. Ambedkar Open University (DBROU), Hyderabad.</td>
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<tr>
<td>24.</td>
<td>Teerthanker Mahaveer University, Moradabad, UP.</td>
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</table>
1.2 Development of Professional Skills among ODL mode students: Professional skills are the specific skills that are required for any person who is in any profession. Development of professional skills included the development of competencies related with the professions. Present study is dedicated to the study of process of development of professional skills related with the teaching competencies and management competencies. For the development of teaching competencies following instructional inputs/activities are included in the curriculum of B.Ed. course of open universities:

a) Micro-Teaching.
b) Practice-Teaching.
c) Classroom-Communication.
d) Classroom-Motivation.
e) Evaluation and assignment work.
f) School Planning and Management.
g) Library as a Resource Centre
h) Organisation of Co-currucular Activities.
i) Use of Information Communication Technology (ICT).
j) Face to Face Mode Counselling.
k) Use of Supporting Broadcast/Telecast Programmes

For the development of management competencies following instructional inputs/activities are included in the curriculum of MBA course of open universities:

a) Project-work.
b) Personality Development Programme.
c) Seminars.
d) Portfolio Preparation.
e) Group-Discussion (G.D.).
f) Use of Information Communication Technology (ICT)
g) Face-to-Face Mode Counselling.
h) Use of Supporting Broadcast/Telecast programmes.
i) Assignment-work.
j) Use of Library facility.
1.3 Need for investigation:

Knowledge of learning styles of students on the part of teachers is helpful in enhancing effectiveness of teaching learning processes of open universities B.Ed. students as well as enhancing effectiveness of managerial competencies of open universities MBA students. The development of professional skills and learning styles of learners of Open-Universities is interrelated to each other. The process of development of professional skills among professional courses students is greatly influenced by learners learning styles. Traditional mode teaching learning process is different from ODL mode. The students background also differ from each other. It is presumed that the ODL mode students are more independent in nature. There is limited scope for interactive and collaborative learning. In such situation the learning styles of ODL mode students vary from that of face to face mode students. The studies on learning styles must be linked with teaching learning process of ODL mode system. Since, a handful of studies have been conducted in this context, particularly in the Indian Context, the researcher focused on the present study. The present study focuses on ‘Learning Styles and Processes of Development of Professional Skills among Students of Professional Courses of Open Universities’.

1.4 Research questions:

1. What are the learning styles of learners of professional courses offered by Open Universities in the context of background variables viz. course, university, gender and subject area?

2. What are the various processes adopted for development of professional skills among learners of professional courses offered by open universities in the context of background variables viz. course & university?

3. What is the association between the perceptions of students towards ODL based instructional processes of professional programmes and their learning styles in the context of background variable university?
1.5 Statement of the Problem:

In order to find answer of the above questions the problem undertaken for the study has been stated as follows:


1.6 Objectives of the Study:

The present study strives to realize the following objectives:

1. To study the learning styles of learners of professional courses offered by Open Universities in the context of nature of courses and universities.

2. To study the processes of development of professional skills as perceived by learners of professional courses offered by open universities: coursewise and universitywise.

3. To study the association between the perceptions of students towards ODL based instructional processes of professional programmes and their learning styles in the context of universities.

1.7 Research Hypotheses:

The hypotheses of the study are formulated as:

1. There is association between learning styles and nature of professional courses of IGNOU students.

2. There is association between learning styles and gender of B.Ed. students of IGNOU.

3. There is association between learning styles and gender of MBA students of IGNOU.

4. There is association between learning styles and subject area of B.Ed. students of IGNOU.
5. There is association between learning styles and subject area of MBA students of IGNOU.

6. There is association between learning styles and nature of professional courses of UPRTOU students.

7. There is association between learning styles and gender of B.Ed. students of UPRTOU.

8. There is association between learning styles and gender of MBA students of UPRTOU.

9. There is association between learning styles and subject area of B.Ed. students of UPRTOU.

10. There is association between learning styles and subject area of MBA students of UPRTOU.

11. There is association between learning styles of ODL mode B.Ed. students and university background.

12. There is association between learning styles of ODL mode B.Ed. male students and university background.

13. There is association between learning styles of ODL mode B.Ed. female students and university background.

14. There is association between learning styles of ODL mode B.Ed. Humanities & Social Science subject area students and university background.

15. There is association between learning styles of ODL mode B.Ed. Science & Technology subject area students and university background.

16. There is association between learning styles of ODL mode MBA students and university background.

17. There is association between learning styles of ODL mode MBA male students and university background.
18. There is association between learning styles of ODL mode MBA female students and university background.

19. There is association between learning styles of ODL mode MBA Humanities & Social Science subject area students and university background.

20. There is association between learning styles of ODL mode MBA Science & Technology subject area students and university background.

21. There is association between B.Ed. students response towards micro-lesson plans prepared and university background.

22. There is association between B.Ed. students response towards micro-lesson plans taught/delivered and university background.

23. There is association between B.Ed. students response towards practice-teaching lesson plans prepared and university background.

24. There is association between B.Ed. students response towards practice-teaching lessons delivered and university background.

25. There is association between B.Ed. students response towards use of teaching aids and university background.

26. There is association between B.Ed. students response towards use of classroom communication activities and university background.

27. There is association between B.Ed. students response towards use of classroom motivation activities and university background.

28. There is association between B.Ed. students response towards use of evaluation activities and university background.

29. There is association between B.Ed. students response towards use of different Sources to complete Assignment work and university background.

30. There is association between B.Ed. students response towards performance of School Planning & Management activities and university background.
31. There is an association between B.Ed. students' response towards the use of the Library as a Resource Centre and university background.

32. There is an association between B.Ed. students' response towards the use of Library facilities and university background.

33. There is an association between B.Ed. students' response towards the organization of Co-curricular Activities and university background.

34. There is an association between B.Ed. students' response towards the use of ICT and university background.

35. There is an association between B.Ed. students' response towards the use of Face-to-Face Mode Counselling Process and university background.

36. There is an association between B.Ed. students' response towards the use of Broadcast/Telecast Programmes and university background.

37. There is an association between MBA students' response pattern towards the use of supervisor guidance for completing Project Work and university background.

38. There is an association between MBA students' response towards the use of resource support for completing Project Work and university background.

39. There is an association between MBA students' response towards motivation for completing Project Work and university background.

40. There is an association between MBA students' response on participation in the personality development programmes and university background.

41. There is an association between MBA students' response towards participation in the seminars and university background.

42. There is an association between MBA students' response on the weightage on different dimensions of Portfolio and university background.

43. There is an association between MBA students' response on participation in group discussion activities and university background.

44. There is an association between MBA students' response towards the use of ICT and university background.
45. There is association between MBA students response towards use of Face-to-Face Mode Counselling Process and university background.

46. There is association between MBA students response towards use of Broadcast/Telecast Programmes and university background.

47. There is association between MBA students response towards use of different Sources to complete Assignment work and university background.

48. There is association between MBA students response towards use of Library facilities and university background.

49. There is association between learning style (Independent and Dependent) and IGNOU students perception towards different components of Instructional processes of professional programmes.

50. There is association between learning style (Avoidant and Participant) and IGNOU students perception towards different components of Instructional processes of professional programmes.

51. There is association between learning style (Collaborative and Competitive) and IGNOU students perception towards different components of Instructional processes of professional programmes.

52. There is association between learning style (Independent and Dependent) and UPRTOU students perception towards different components of Instructional processes of professional programmes.

53. There is association between learning style (Avoidant and Participant) and UPRTOU students perception towards different components of Instructional processes of professional programmes.

54. There is association between learning style (Collaborative and Competitive) and UPRTOU students perception towards different components of Instructional processes of professional programmes.
1.8 Operational Definitions:

I. Learning Styles: Learning Style is the manner, in which an ODL mode learner perceives, interacts with and responds the learning environment. It refers to the preferred mode or way of ODL mode learners for their learning.

II. Process: Process is defined as implementation of instructional inputs for the development of professional skills among students of ODL mode B.Ed. and MBA programme.

II. Professional Skills: The competency as included in the curriculum of B.Ed. and MBA programme offered by open universities.

1.9 Delimitations of the Study:

The professional courses of Open University system have been delimited to B.Ed. and MBA programmes of IGNOU and UPRTOU. The scope of the study is delimited to Open University students enrolled in the study centres located in UP.