

Branches of Geography" and "Current Teaching Methods of this Subject at the School Level

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Abstract: This paper has presented the Current Teaching Methods of Geography Education in Nepal. Geography is the study of the environment of man, physical and social, particularly with relation to human activities. It draws from across the physical, cultural, economic and political spheres to the local and the global. It is based on reviews of secondary sources of data. Two major branches of Geography are Physical and Human geography. Physical geography indicates the study and explanation of physical phenomena and human geography indicates studies the inter-relationship between the physical environment and socio cultural environment created by human beings through mutual interaction with each other. Observation, Laboratory and Project are the major teaching methods of Geography presented in this paper and also included merits and demerits of its. A qualitative method design was adopted to explore the phenomenon of this paper. The result reveals that effective major teaching method of geography education. Key words: Geography, Method, Branches, Merits, Demerits. Introduction Geography has been derived from the words, The word 'Geo' means earth and the word 'Graphy' means 'study' or 'description'. The first person to use the word "geography" was Eratosthenes (276-194.B.C.). Accordingly, geography draws on all aspects from across physical, cultural, economic and political perspectives at a variety of levels ranging from local to global. The study of geography helps one achieve a deeper understanding of the world around with all its diverse aspects relating to place and location. Geography encompasses both physical and human geography, focusing on interactions between people and their environment, enhancing our understanding of cultural diversity, populations, and landscapes. , the study of Earth's terrain, lands, people, and events, is crucial for 21st-century global citizens to comprehend sustainable living in an interdependent world.

Research and teaching have had ever been tightly linked together. Scientific wise, Geography takes interest in researching a variety of specific human and spatial aspects both theoretical and practical. Geography contributes to educate and help develop abilities to youth and school pupils. The depth of phenomena knowledge, geographic processes and the teaching – learning trends cannot be achieved without educating thinking, modelling of observation ability, complexity scaling, analysing the relevant components for the fundamental features of this field. Methods of teaching geography and pedagogy represent a "unique science whose subject matter, teaching geography, is conceived as a scientific and educational category" (Mastilo, 1984 by: Rudic, 1998). According to Richard Hartshorne, the task of geography is "to study the similarities and differences seen between different places on the earth surface and assess the influence of these similarities and dissimilarities on man". Similarly, Macnee mention "Geography is the study of earth as the home or in other words, Geography is the study of an environment of man, physical and social, particularly with relation to human activities." Geography is one of the most important means of promoting individual education substantially

contributing to environmental education and sustainable development. 'Good teachers use an appropriate range of teaching strategies to promote good learning' and 'outstanding teachers use well-judged and often imaginative teaching strategies. Likewise, teaching strategies is one of the main components in educational planning which is a key factor in conducting educational plans. Despite the importance of good teaching, the outcomes are far from ideal. Regarding the importance of methodology it may be said that a methodologist, like any other scholar will be required to carry on his self- education throughout his life because a well-trained. Methodologist will confront new developments in his science, judge their merits, relate them to past trends and make a reasoned choice as to what he wants to integrate into his own thinking.' Now a day's geography is considered as a part of the composite science of Human Society. Its purpose is to study the structure and behaviour of human society. Therefore, it is one of the social sciences. This paper is prepared to highlight the major method of teaching geography in Nepal. Objectives: • To explain the branches of Geography education • To familiarize the student teacher with different methods of teaching geography in classroom. • To develop an understanding of the merit and demerits of various methods.

I. Methodology

This is a qualitative descriptive research design and highly relies on secondary data. Secondary data, as a research fact, according to Pant (n.d.), were gathered from various sources to answer the objectives of the study. The methodology will rely on descriptive writing, with data sourced through an ex post facto approach wherein data is culled from available records like archival documents, official records, reports from CBS, national and international publications, e-resources related to the methods of geography education. Creswell and Clark (2007) support the trustworthiness of qualitative research in case a small sample size is being used compared to large data. Thematic approach: This study analyzed and discussed the research findings through the use of thematic approaches for organizing results in a systematic manner.

II. Result and Discussion

Geography is the mother science of all discipline. It has focuses the study of the earth. It is the study in Nepal from primary, secondary to higher education level. It is taught as a practical and theoretical subject in the curriculum up to school to university level. Geography education is one of the handy subjects through people could satisfy their curiosity about the distant lands and peoples. Geography has now acquired the status of science that explains the arrangements of various natural and cultural features on the earth surface. Geography is a holistic and interdisciplinary field of study engaged in understanding the changing spatial structure from past to the future. Thus, the scope of geography is in various disciplines, like armed services, environment management, water resources, disaster management, meteorology and planning and various social sciences. Apart from that, a geographer can help in day to day life like tourism, commuting, housing and health related activities. Basically the subject matter or scope of geography is too rigid. But for study purpose it has two main branches: Physical Geography, and Human Geography.

A. Physical Geography: Physical geography is concerned with the study and explanation of physical phenomena, encompassing the other such fields like geology, meteorology, zoology and chemistry. It became a very popular subject during the latter part of the nineteen century. Geography is a vast field that consists of many sub-branches dealing with particular physical and natural features. These subfields enable us to understand various aspects of the Earth's physical features and processes:

Geomorphology: Geomorphology studies Earth's features above the surface, including mountains, plateaus, plains, and valleys, originating from Greek, meaning "study of Earth's forms." It concerns the study of formation and alterations that take place on such landforms through the course of time due to processes related to erosion, weathering, and tectonic activity.

Climatology: Climatology is the study of Earth's atmospheric conditions, weather patterns, and climate systems. It examines in detail the characteristics of weather through advanced tools and trends. The climatologist makes a forecast of future trends by taking data from satellites, weather stations, and computer models. Climatology

supports responses to challenges in climate through understanding the influence on ecosystems, agriculture, and human societies. It aids in disaster preparedness, resource management, and mitigation strategies. Climatology is a bridge between atmospheric science and human adaptation to better enable policy-making for sustainable development.

Meteorology: Meteorology is a scientific field that studies atmospheric conditions, analyzing and forecasting short-term weather events like temperature, rainfall, and storms. It focuses on understanding the underlying mechanisms and physical processes driving these phenomena. By integrating data from satellites and weather stations, it ensures safety and preparedness..

Pedology: Pedology is the scientific study of soils, their formation, structure, and texture, their chemical composition, and general characteristics. Soil development over time is studied based on climate, organisms, topography, parent material, and time, examining physical, chemical, and biological properties, fertility, water-holding capacity, and nutrient-holding capacity. Moreover, pedology addresses the critical relationship of soil to plant growth in respect to the way soil conditions will influence agricultural productivity and crop yield. In addition, the understanding of soil profiles and their classification in relation to ecosystems means that pedology has an important role in sustainable agriculture, land management, environmental conservation, and in finding solutions to global crises like soil degradation and climate change. It is therefore considered the cornerstone of Earth Science, indispensable in the advancement of agriculture and the conservation of natural resources.

Hydrology: Hydrology is the study of water on Earth's surface and beneath it, including its movement, distribution, and interactions with the environment. It covers various water bodies and processes, and focuses on sustaining ecosystems, regulating climate, and supporting human life. Understanding water dynamics helps ensure its availability and quality for future generations.

Seismology: Seismology is the geophysics field that studies earthquakes, their origins, consequences, and dispersion patterns. It deciphers seismic waves from volcanic eruptions, tectonic activity, and other phenomena, revealing Earth's interior dynamics. Seismology is also essential for comprehending tectonic processes, including fault dynamics, plate motions, and the creation of geological structures. Seismology greatly aids in risk assessment, disaster planning, and the creation of efficient mitigation plans by offering Paraphrase without limits useful information on seismic event intensity and earthquake-prone regions.

Astronomical Geography: Astronomical geography is a branch of geography that studies space phenomena and their influences on Earth, putting much emphasis on the relation of the planet with the Sun, Moon, and other celestial bodies in the solar system. It is the study of how the motion and alignment of these celestial bodies affect natural phenomena on Earth. For example, it takes into account the role of the Sun in developing day and night cycles, the seasons, and the distribution of solar energy; likewise, the gravitational pull by the Moon produces tides. Astronomical geography also explains phenomena such as eclipses of the moon and sun, motion of the planets, and other associated phenomena observable from Earth. It merges the principles of astronomy with those of geography to further detail the linkage between celestial mechanics and Earth's natural systems, so essential in understanding phenomena shaping not only the environment of the planet but also human life..

Volcanology: Volcanology is the science of the workability of volcanoes-from the origin and form of the volcano itself and its eruptive processes to the events associated with them shaping the landscape and contributing to the environment. This will also involve understanding mechanisms for magma generation, transport, and eruption; properties and dynamics of volcanic materials: lava, ash, and gases. Volcanology also encompasses environmental and geological topics related to the effects of volcanism: topographic landform development, soil enrichment, climatic effects, and hazards including pyroclastic flows, lahars, and volcanic tsunamis. Volcanologists monitor and interpret active volcanoes to understand Earth's interior dynamics, develop early warning systems, protect life, infrastructure, and ecosystems, and advance Earth processes.

Bio-Geography: Biogeography is the science that deals with the distribution of organisms, plants, and animals, in space and time. This science explains how biological phenomena related to migration, speciation, and species extinction are connected with environmental elements such as climate, relief, and soil, and human activities and processes like urbanization, deforestation, and agriculture. Biogeography seeks to understand the patterns and processes that shape ecosystems and biodiversity at local, regional, and global scales. It is, in turn, divided into subfields such as plant geography—a study of plant species distribution and types of vegetation; animal geography, a study of animal populations' distribution and behavior in space; human ecology, which researches the relationships of human societies and their natural environments. Biogeography integrates data from ecology, geology, and climatic disciplines in drawing inferences on conservation strategies, habitat management, and environmental change impacts on ecosystems.

Oceanography: Oceanography is the science studying physical and biological properties, among other things, concerning the ocean. It would hence include everything about waves, tides, currents, and even the dynamics of ocean circulation. It would also be inclusive of the ecosystems of the marine world; the diversity in life forms, life interactions, complex chains to sustain aquatic life. In addition, oceanography encompasses the study of energy, gases, and matter exchange between the ocean and atmosphere, which significantly influences Earth's complex processes that regulate weather and climate. In fact, all these subfields of geography, including oceanography, give a complete insight into the Earth's physical features and processes, thus helping in understanding the solution to various environmental problems. Many solutions to highly debated problems by scientists, such as marine pollution, sea level rise, and impacts of climate change on marine ecosystems, can be found by studying the oceans. This brings better consciousness of man to the interconnectedness of Earth's systems, encourages friendly sustainable practices, and thus contributes to a better relationship between humans and nature.

In conclusion, Geomorphology studies Earth's surface features, focusing on erosion, weathering, and tectonic activity. Climatology analyzes atmospheric conditions, weather patterns, and climate systems, aiding disaster preparedness and sustainable development. Meteorology analyzes short-term weather events, while pedology investigates soil formation and agriculture. Hydrology focuses on water movement and distribution, while seismology assesses risks and develops mitigation strategies. Astronomical geography explores Earth's relationship with celestial bodies, while volcanology monitors eruptions and environmental impacts. Biogeography examines plant and animal distribution, while oceanography studies oceans' properties.

B. Human Geography

Human geography studies the inter-relationship between the physical environment and socio cultural environment created by human beings through mutual interaction with each other. It focuses on human activities regardless of specific cultures. Changes related to different cultures or a social system is the realm of cultural geography. Geography is 'the study of the earth as home of humans'.

Branches of human geography: The following branches of human geography are given below:

Anthropogeography: Anthropogeography, a term invented by the German geographer Friedrich Ratzel, describes mainly the study of the spatial patterns of human beings upon the surface of the earth. It treats the distribution of human stocks, mainly racial and ethnic groups over the world's various areas, and their relation to the environment. Anthropogeography embraces investigations not only of the physical environment but also of cultural, social, and economic features which determine human behavior and, consequently, permit comprehensive studies of the relation of man to his geographic environment.

Cultural Geography: Cultural geography is concerned with integral relationships of culture and space that analyze the differentiation of cultures in space and how these portray their practices and beliefs in the landscape.

It is a branch of geography that deals with the way cultural traits such as languages, religions, traditions, and customs modify the physical environment to create specific cultural landscapes. It also focuses on how the different interactions of cultures with geography itself cause regions to develop differently; it pinpoints the varied ways in which human societies adapt themselves and change their surroundings. **Spatial Economics:** Economic geography researches how spatial distribution comes about and is maintained in an economic activity; how products are produced, exchanged, and consumed in space. It consists of many subfields of study, including resource geography, agricultural geography, industrial geography, and transport geography. Geographers in this field research the location of resources, the development of industries, patterns of trade, and flows of goods, people, and services—all those matters which come within the broad influences of physical and human elements. It looks at many happenings within both international and local economies as reasons for division over the sharing of wealth and the sustainability of economic regimes.

Political Geography: Political geography is the study of political phenomena and their spatial dimensions, focusing on creation and transformation regarding political and administrative regions. The ways in which political boundaries, methods of governance, and structures of power shape and get shaped by geographical elements such as terrain, climate, and distance from other states or regions have been studied within this field. Political geographers study the interaction of states, nations, and international organizations, as well as the influence of geographic features on political decisions involving such issues as the control of resources, strategic locations, and conflict outcomes. It is instrumental in understanding how geography and politics are intertwined and influence global and national affairs.

Historical Geography: This branch of geography studies changes in geography throughout time, considering how human societies have shaped and been shaped by their respective natural environments. It examines the changing distribution of populations and settlements, as well as the configuration of political regions, analyzing past events such as migration, wars, and colonization that folded current landscapes. Historical geography begets the opportunity for scholars to comprehend processes of change and continuity that have modeled the modern world, filling the gaps between geography, history, and culture.

Social Geography: Social geography deals with the analysis of social phenomena in reference to space and considers how various social problems relate to poverty, health, education, and livelihood in particular geographical areas. It is the branch of science that deals with the spatial organization of societies and how it is influenced by geographic factors. Social geographers analyze the influence of social inequalities, such as class, race, and gender, on equal access to resources and opportunities, thus making useful insights into the society-space nexus. This knowledge is crucial in trying to deal with social problems and setting up policies concerned with the improvement of living standards and a reduction in inequality.

Population Geography: Population geography is the study of population patterns, such as distribution, density, composition, fertility, mortality, and migration. Geographers in this field analyze the spread of populations across different regions, the factors affecting population growth and decline, and the movements of people from one place to another. Population geography also examines demographic trends in population structures that include aging, urbanization, and migration and how these trends impact economic, social, and environmental conditions.

Settlement Geography: Settlement geography deals with human settlements, both rural and urban, and studies their size, distribution, functions, and hierarchical organization. The discipline researches patterns and processes governing settlement foundation and growth. Geographers concerned with the study of settlement aspects consider various factors such as geography, climate, economics, social structure, and many others that cause the growth of cities, towns, and villages. They also study land use, infrastructure issues, and sustainability concerns, which provide them with many insightful pieces into the mechanics of settlements and general development.

Urban Geography: Urban geography is the aspect of human geography concerned with cities and urban areas. This has several aspects in life including population dynamics, infrastructure, economic activities, social structures, and physical environments. The fields of concern for the urban geographer include the growth, development, and functioning of cities in relation to people, space, and resources. It deals with various issues related to the sprawling of cities, housing, transportation, and sustainability; hence it is highly applicable to challenges concerning urbanization and the planning of cities. **Rural Geography:** It deals with the study of rural spaces and the phenomena that are typical of such spaces. This involves the study of rural settlements, agriculture, and socio-economic processes of change in the context of developed and developing nations. It deals with rural landscapes, land use, economic activities, and population distribution within those areas. In addition, this discipline analyzes different problems concerning rural communities on issues such as access to resources, infrastructure development, and the effects of urbanization on rural livelihood.

Medical Geography: The work of medical geography focuses on research into health and disease in the context of geographical areas, considering patterns of distribution outlining pandemics, epidemics, and common illnesses. It is here that geographers study the roles of environmental, social, and economic elements which determine diseases and the nature of health services distribution at different levels. Medical geography, in this respect, plays a very important role in understanding the issues of public health, improving healthcare access, and developing strategies for disease prevention and control, especially in areas affected by health crises.

Health Geography: Health geography studies the distribution of health services and general health status in the population, considering how geography and socio-economic conditions, as well as access to healthcare, impacts individuals' and communities' wellbeing. It is that branch concerned with geographical inequalities persisting in health care provision based on various geographical characteristics of the regions including but not limited to a rural or urban setting. The health geography provides vital information from the perspective of formulating policies which involve infrastructures and resources in facilitating enhanced outcomes of public health.

Development Geography: Development geography so far has put emphasis on aspects relating to quality and standards of life in most regions around the world. It does research on economic, political, and social factors that influence development; it focuses on inequality with a concern for time and space. Geographers of development study demographic indicators such as birth rates, death rates, and fertility rates indicative of the level of development in an area. This branch tries to explain the drivers and constraints of development, with the view to providing insights for the improvement of living conditions, the reduction of poverty, and sustainable development through spatial analysis and policy recommendations.

III. Teaching Methods

Teaching methods in geography relate to the strategies and approaches adopted by educators to facilitate the learning and analysis of geographic concepts, processes, and phenomena by their students. These are good in developing spatial thinking and critical analysis to instill better appreciation of the relationships between people, places, and the environment. Below are some of the most common teaching methods used in geography: A)

Observation Method: Observation method is “a data collection method in which a person (usually trained) observes subjects of phenomena and records information about characteristics of the phenomena”(Sproull, 1988). The method of observation is qualitative. It is used to collect information by observing the subjects in a natural environment and then analyzing the information. Observation is based on behavioral patterns, psychological character, attitude and beliefs of the subject, etc. The observation method consists of watching, listening, touching, and recording the behavior, attitude, and characteristics of objects or phenomena or living beings. By using this method, the researchers try to understand and comprehend the behavior and psychological character of the said subject. The principles aspects of observation method are 1) To observe, 2) To record, 3) To interpret. 1951 The technique of obtaining geographical information by direct

observation is basis to the subject. Observation method for teaching geography may be used inside the class room as well as outside the class-room. Inside the class room the following aids help observation: i) Globe: Globe is a useful aid by observation; students can develop such concepts as longitude, latitude, meridian etc. ii). Charts: Charts prepared by students themselves or those commercially produced also enhance students' observation. iii). Models: Students observe things and they can convert the results of their observation into models. Outside the Class-room: The teacher can enrich students' observation by adopting certain modes outside the class room. The teacher may use the following modes for this purpose Geography is essentially an observational science. Within the four walls of the class room, the teaching of geography is limited to the globe, maps and the text-book. The real geography exists outside the class room. The students should be made to observe geography facts like the temperature, pressure, direction and velocity of the wind, clouds, lakes and mountains. The first-hand experience about these phenomena of nature gives clear understanding of natural happenings. Outside the class room, there are fields, crops, soil etc. which also forms part of geographical content. On the spot observation of these entities followed by discussion in the classes enriches students' knowledge of geographical facts. The teacher of geography would like to make students study the surrounding environment, the landscape and what it offers to man to make his living meaningful. a) Field Trips: Field trips help in exploring the environment. Students may be taken out into the larger landscape to observe geographical objects, prepare brief notes, and collect specimens and so on. b) Excursion: Excursions educate as well as entertain. Students learn by interacting with the environment. Excursions to hill stations, to geographical monuments help students to understand certain phenomena. Roles of Researcher (Observer) According to Chatman, (1984) Roles have been defined as "the characteristic posture's researchers assume in their relationship" with the people whom they are studying (hereafter refer. In his article on roles in field observations, Gold (1958) "credited, and expanded on, Buford Junker's typology of four roles researchers can play in their efforts to study and develop relationships with insiders, including complete observer, observer-as-participant, participant-as-observer, and complete participant". More recently others, such as Spradley (1980) and Adler and Adler (1994), have proposed slightly different roles or used different terms than did Gold as will be discussed below. While Gorman and Clayton described Gold's four roles as "a range of flexible positions in a continuum of participatory involvement" (2005, p. 106), not everyone has to start as a complete observer. The adopted role depends on the problem to be studied, on the insiders' willingness to be studied, and on the researcher's prior knowledge of or involvement in the insiders' world. Going into a new environment may require the researcher to adopt the role of complete observer, whereas studying a group in which she/he is already a member allows the researcher to adopt the complete participant role. What is important is that the researcher assumes an appropriate, fluid role—one that allows her/him to observe intimately the everyday life of the insiders (Chatman, 1984; Carey, McKechnie, & McKenzie, 2001). Merits of Observation method: Easiest method: The simplest method of data collection is the method of observation. Very minimal technical knowledge is required, and even though scientifically controlled observations require some technical skills, it is still more accessible and more straightforward than other methods. It is easier because every day, everyone observes different things in their lives. If little training is given, then it can make a person perfect for observing their surroundings. ii) Natural surroundings: The observation method of data collection describes the observed phenomenon precisely and does not introduce any artificiality like other methods. They describe the phenomenon precisely as it occurs in the natural research environment. The observation method is not as restricted as the experiment. iii) High accuracy: In interview methods and questionnaire methods, the respondents' information provides us the information with which the researchers have to work. These are all indirect methods, and there is no means to investigate the accuracy. But in the observation method, the information accuracy can be checked by various testing. So, the data collected by observation is much more reliable. iv) Appropriate tool: There is a particular phenomenon that cannot provide information verbally regarding their behavior, activities, feelings, etc. For this phenomenon, observations are the best method. The observation method is essential for studies on infants who are unable to understand the details of research work and cannot express themselves clearly. v) Less cooperation of the respondent is needed: The observation method does not require people's willingness to provide information regarding them. There are various instances where

the respondent refuses to speak about themselves and their personal life to an outsider. Some do not have the right communicative skills or time to provide information about themselves to researchers. Even though observation cannot always overcome such problems, it is still relatively easier to require less cooperation from the respondent. Demerits of Observation Methods: (i) Everything is not observed: There are various personal behaviors and secrets which the researcher does not observe. Many respondents refuse to let researchers observe their activities, and due to this reason, not everything is observed by the researcher. It also becomes difficult to gather information about an individual's personal opinions and preferences. (ii) Past life remains unknown: The observation method has no technique to study the subject's past life. It is tough to gather information about past life if the subject is not cooperative enough. Since no other option is available, researchers have to rely on documents that are not always accurate. (iii) Time-consuming: Observation is a prolonged and time-consuming method. If one wants their observation to be precise and accurate, they must give it enough time and not hurry the process. P.V. Young also remarked that observation is a method that cannot be hurried. It is tough to complete an investigation in a limited period through observation. Since it is a time-consuming process, there are chances that the observer and the observed both lose their interests and deny continuing the process. (IV) Expensive: Observation is a very costly affair. It requires plenty of time, strict and detailed work, and high cost. Observation consists of traveling to various places, staying at the place where the phenomenon occurred, and buying sophisticated and high-quality tools for research. Due to the reasons mentioned above, the observation method is known as one of the most expensive data collection methods. (v) Personal Bias: The personal bias of the researchers affects their observation in many ways. This also creates issues for making valid generalizations. The observer or researcher may have their insight of right and wrong regarding specific events. They may also have different preconceptions related to a particular event which jeopardizes the objectivity of social research.

(B) **Laboratory Method:** -A geography Laboratory may be defined as a room in which are contained all written, audio and visual materials pertinent to geographic instructions. The laboratory method of instruction, used so successfully in the natural sciences, has been adopted for application to geography with equal success. The laboratory method places primary emphasis upon equipment and its use. This method presupposes a well-equipped room in which the students have access to books, magazines, maps, pictures, drawing and construction material and other type of material which will promote better work (Dushi,nd.).

The self-contained environment should contain most of the materials that the teacher and students will typically use.

. The physical arrangement of a class room thus made is such that book cases, magazine racks, newspaper holders, pictures, drawing and construction material and other type of material which will promote better work.

(i) The laboratory method of instruction, used so successfully in the natural sciences, has been adopted for application to geography with equal success.

(ii) This method seems to have grown out of the directed study. The laboratory method places primary emphasis upon equipment and its use.

(iii) So this method presupposes a well-equipped room in which the students have access to books, magazines, maps, pictures, drawing and construction material and other type of material which will promote better work. In those situations a special room is not available; the teacher of geography can place these instruments in an ordinary class-room.

(iv) The procedure of the laboratory method is similar to that of problem solving approach or a completion of a project or preparation of charts, models, and maps or conducting of experiment to arrive at a general principle.

(v) The teacher and the pupils both perform certain experiments based on scientific principles to make certain concept of geography clear. The students either individually or in groups make use of the material for solving different problems in geography.

(vi) Practical work in geography constitutes the laboratory work.

(vii) The data collected in the field or the statistical reports are transformed into maps and diagrams in the laboratory. After the field observation, the need of laboratory is felt to give concrete shape to the ideas.

The Role of the Teacher

- (i) In this method the role of the teacher is that of a guide and helper rather than that of taskmaster.
- (ii) Before performing the experiments in the class the teachers should test the apparatus by performing the experiments himself and if the experiment is successful only then he should perform the same experiment in the presence of the students.
- (iii) The teacher should also take care not to tell the results, which are likely to be obtained from a particular experiment, to the students beforehand. The students should be encouraged to arrive at the results themselves.

Merits of Laboratory method

Following kinds of merits can be accrued by making use of Laboratory Methods

1. Students learn by doing come in contact with raw data or materials in teaching.
2. Develop the power of observation and reasoning.
3. Develop the scientific attitudes.
4. Gives an understanding of what research is and how to apply the scientific method.
5. Gives training in organizing data gathered from real materials is object and how these objects are manipulated to attain the objectives.
6. Since students come in contact with real life situation, it can be a preparation for solving real life problems.

Demerits of Laboratory method

- (i) It is not so easy to make the students discover geographical facts or concepts by experiments.
- (ii) It is very slow method of learning and teaching.
- (iii) It degenerates sometimes into a kind of manual training.
- (iv) Geography rooms in Nepalese schools are not properly equipped with material to follow this method.
- (v) This method cannot be employed usefully for teaching economic, regional, historical and human geography.
- (vi) This method cannot be employed in the junior stage because the children have not developed their reasoning and observational power.

(C) Project Method

Among all the methods of teaching geography, Project method is the most important which is frequently applicable to teaching-learning process. It is a method which stands against the traditional method of teaching where the theoretical knowledge from the book is accepted or received by the students. In propagating this method, American educationist John Dewey did much work (Dushi, nd.).

Prof. Kilpatrick defined a project as "a purposeful activity which proceeds in a social environment." Dr. J.A. Stevenson who perfected it as a method of teaching said "it is a problematic act carried to completion in its natural setting". According to C.V. Good, "A project is a significant unit of activity, having educational value and aimed at one or more definite goals of understanding.

It involves investigation and solution of problems and frequently the use and manipulate of physical materials. It is planned and carried to completion by the pupils and the teacher in a natural life-like manner.

Project may be individual or co-operative, large or small. It may be employed according to the mental age of the pupils. But that must be done under the guidance of an expert.

Psychologically, the project method is based on the principles of learning by doing encourages maximum amount of purposeful activity on the part of the pupils. Adopting method, the heart, head and hand are to be functional. That means both the physical and also the mental powers of the students are to be exercised or utilized.

Basic Principles of Project Method:

- 1) The project must be based on activity-mental or motor.
- 2) It must be purposeful in its action.
- 3) Under the project, the students must accumulate experience-manipulative, concrete or mental.
- 4) It must provide real experience.

5) It must be useful in nature.

The Role of the Teacher

- i) In this method the role of the teacher is that of a guide and helper than that of task master.
- ii) Before performing the experiments in the class the teacher should test the apparatus by performing the experiments himself and if the experiment is successful only then he should perform the same experiment, to the students beforehand. The students should be encouraged to arrive at the results themselves.

Merits of Project Method

1. As it is based on the psychological principle, it is only for the development of the inherited traits of the child providing the most natural conditions.
2. Applying this method, education gets more meaning and value in comparison to the traditional methods of teaching.
3. It develops social values like co-operation, fellow-feeling and brotherhood.
4. As it involves manual activities, it emphasizes the dignity of labor.
5. The students by this method, understand the importance of learning by doing and direct experience of things.
6. This method employs the sense and not mere words or symbols.
7. It trains the pupils in the exercise of invention and self-responsibility.
8. The child gets training in research work through this method.
9. The child derives satisfaction when he achieves something by his own efforts.
10. Lastly, the students can evaluate their work.

Demerits of Project Method

Sometimes efforts are wasted in an attempt to base the whole of geographical syllabus on projects. This is not very practicable in real sense. The main drawbacks of the method are:

2. It requires more money to be spent and this is very difficult to manage.
3. Trained and qualified teachers to put this method into practice are not available.
4. All schools do not have resources to use this method.
5. Projects are difficult to devise for all stages of teaching.

(D) Demonstration method

The word demonstration means to give demos or to perform the particular activity or concept. In demonstration method, the teaching-learning process is carried in a systematic way. It is practical ways of teaching; in this method teacher perform an activity to teach his student a concept, this often occurred when students find it difficult to connect theories to actual practice and when students are unable to understand the theories and its applications. Demonstration is an instructional method through which an idea is conveyed with the help of visual aids like flip charts, posters, power point, etc. Demonstration can be defined as the process of teaching anyone how to make or do something in a step-by-step manner. As you show how, you "tell" what you are doing". Merits (1) It helps a student in having a deeper understanding of the topic. (2) It helps to motivate students in teaching learning process (3) It leads to permanent learning. (4) It accounts for the principles of reflective thinking. (5) It helps to create interest for topics among students. (6) It helps in arousing the spirit of discovery among students. (7) It imparts maximum learning to students. (8) It helps to motivate students in teaching learning process. Demerits (1) Students cannot benefit with direct and personal experiences as teacher carry out the demonstration. (2) It can be costly as it requires costly materials. (3) It can be a time-consuming method. (4) It is not based on learning by doing. (5) This method does not provide training for the scientific method. (6) There is a lack of experienced teachers to carry out the demonstration. (7) It does not provide training for the scientific method

In conclusion, teaching methods in geography involve strategic approaches to help students understand geographic concepts, processes, and phenomena. The Observation Method emphasizes direct observation, data

collection, and analysis of real-world geographic phenomena, while the Laboratory Method focuses on hands-on learning through experiments and practical activities in a well-equipped geography lab. Both methods promote critical thinking, experiential learning, and a deeper understanding of the relationships between people, places, and the environment. However, they can be time-consuming, costly, and subject to personal biases or incomplete data.

IV. Conclusion

Geography is the study between both physical and human geography and looks at the interactions between the human and environment. Geography contributes to educate and help develop abilities to youth and school pupils. There are two branches of geography such as Physical and Human geography. Physical geography deals with its own origin phenomena in the earth such as rocks, earthquake, river, glacier etc. Similarly, Human geography studies the manmade things such as religion, culture, caste, boundary etc. This paper based on the secondary data and adopted qualitative method. Geography education is the one of the handy subjects through which people could satisfy their curiosity about the distant lands and peoples. Some of the appropriate teaching methods are presented at the secondary classes. The effective teaching methods are observation, laboratory, project and demonstration methods in geography education. The different methods of geography education has presented in this paper as well as merits and demerits. All presented method is a very useful and effective for teaching in Geography. This paper concludes to develop additional similar method to support the learning of other key concepts taught in school level in geography

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