

Equity Practices of Teaching Science at Secondary Level

Tikaram Gautam¹

Abstract

The main objectives of this study is to explore the equity practices in science classroom. Implementation of equity provision in science classroom is very important. Equity means ensuring the needs of the students according to their necessities. It focuses on individual teaching. All students are different and having the specific capacity and capacity of learning and teacher should facilitate them all according to their ability and they should have rights to equal access in resources and other extra supports for their improvement and also should have the equality in achievement. To reveal such practices in learning science researcher used phenomenological study. Two secondary science teachers were selected using purposive and convenient sampling method. The in-depth interview was taken for data collection two times to saturate the data. Collected data were analyzed using thematic analysis. Practices of equity provision were found weaker. Teacher were found little bit concerned about the equity in pedagogy but it was limited only to sitting arrangement and group division. They could not provide the adequate concern on homework checkup, and individual teaching. And they were found less concerned about the equity in achievement. Hence, it is necessary to organize workshops and training on professional development issues to implementation of equity provision; equity in access, equity in process as well as equity achievement in the science classroom.

Introduction

Diversity means differences in the characteristics of the human beings. Diversity can be clearly understood if we see Nepal with the existence of the multicultural societies and communities. The concept of diversity differs from person to person, place to place organization to organization and author to author. In some organizations, diversity is strictly focused upon race, gender, religion, and disability status; in other organizations, the concept of diversity is extended to sexual orientation, body image,

1 Mr. Gautam Teaches Science Education at Mahendra Ratna Campus, T. U. Tahachal

and socioeconomic status (Washington, 2008). There are 123 castes and 125 languages are spoken in Nepal. The classifications of the castes/ ethnicity as follows; *Brahman/ Chhetri (hill brahman, hill chhetri, TaraiMadhesi Brahmin chhetri)*, *Dalit (hill dalit, tarai/ madhesidalit)*, *Newar, Janajati (hill/ mountain janajati, Madhesijanajati)* and others (Bennett, Dahal, & Govindasamy, 2008). Religions are classified as Hinduism (89.5%), Buddhism(5.3%), Islam (2.7%), Jainism (0.1%) and others(2.4%) (Pant , 2008). Within this very vast diversity we also find diversity in economic and social status of the people. The Constitution of Nepal has made the provision that every person shall have a right to equality (In Part 3, Article 18), no people will be discriminated at public and private place in the name of their castes, religion, origin, tribe, community, profession, occupation or physical condition, in producing or distributing any goods, services or facilities (3, Article 24), right to free and compulsory education up to basic level, free education up to secondary level and easy access to higher educations in (Part 3, Article 31), Right to Language and Culture (Part3 Article 32), Right to Employment (Article 33) are the rights declared by the constitutions of Nepal (The Constitutions of Nepal, 2015). Nepal is multicultural, multilingual country, there is wide range of diversity according to, caste, ethnic group, religion, economic status, geographical region, and disability status. Whith the diversity there is an inequality in Nepalese society. The Government of Nepalhasmade the provision of equity (positive discrimination) which is the evidence of inequality. So, to get equality equity was necessary both in opportunity and results.

Equity means focusing on the issues of social segregation, racism, and gender or status discrimination or on other forms of potential discrimination (Levin, 2003). Educational equity refers the access to education /schools and it is for the quality enhance of education. Equity in educations means fairness, inclusion for the students for their improvement, empowerment of students by providing the extra support, theoretically it is discrimination but practically it is the positive discrimination or to provide sympathy for the minorities/ suppressed group for the diffusion of knowledge and enhance the quality of education (OECD, 2012). After the World War II, to end the act of human rights violation, The Human Rights Declarations 1948 was declared. It clearly says “everyone has the right to life, liberty and the security of person, (Article-3), similarly in Article 7 “everyone are in the equal protection of law without any discrimination. In Article 10 there is the provision of full equality to a fair and public hearing by an independent and in Partial tribunal, in the determination of his rights and obligations and of any criminal charge against him. Similarly in Article 21, everyone have the equal

rights of government and public service and in Article, there is the provision of right to education. It says that education shall be free and compulsory up to at least elementary education, there should be easy access for all to higher education according to merits and education should develop the full potential of the human. All these articles have ensured the discrimination less societies having the equal chances for government jobs and learning too (The Universal Declaration of Human Rights, 1948). The Government of Nepal also signed on this declarations in 1990 and present constitutions of Nepal has also declared education compulsory and free up to Basic level (class -8), has ensured free education up to secondary level and easy access in higher education. For supporting this essence of the declarations the government provided the extra opportunity for the marginalized / suppressed groups as well as the minorities. There will be the different issues and dimensions for ensuring the equality in education and equity. So, the main purpose of the thematic review is to address the concept, issues, strategies and approaches of equity in education in the context of Nepal.

Concept of equity

Due to the different circumstances like economics status, disability status, social values, superiority all the people have not got the equal access to education and government services. To dress these minorities or suppressed groups there should be support for their improvement through positive discrimination i.e. equity. For examples, let's suppose one man is very fat and other one is very thin and if we give both of them the same sized T-shirt, it is equality and if we provide short T-shirt to the thin one and long T-shirt for the fat, it is the equity. That means equity provides an opportunity to weaker one. Equity is one of the topics that have been identified in order to study the indicators of the scholastic system, and among other aspects, includes the issues of inclusion, selectivity, guarantees of the right to study and equal opportunities (Levin, 2003). Hence, equity in education means providing scholarship to minorities, providing space in the first bench for the students with low visions or low hearing capacity, and short pupils. But it is better to arrange the classroom as the round table where all students have easy access in all parameters of learning. This is the way of justice.

In the 60s and 70s the concept of efficacy and efficiency was intruded and in the same way, in 80s and 90s, the issues of quality education was raised whereas the equity concept in education which was introduced at late 90s focused on the access and quality in educations (Castelli, Ragazzi, & Crescentin, 2012; Maitzegui-Onate & Santibanez Gruber, 2008; Tomlinson, 2001) as cited in (Castelli, Ragazzi, & Crescentin,

2012) raised the debate on opportunity or legally recognized rights (rights to education, rights to equal opportunity no any discriminations by men and women), access to school (everyone should have the access to school and equal opportunity and access to learning materials and in curricular and extra-curricular activities too), equal treatment for the education and opportunity for the success. The opportunity for the success indicates that the students should get equal results of success. It means *Dalit* and non-*Dalit* students should get equal opportunity and equal success rate. Provide the equal opportunities for all disadvantage group, have the equal treatment for all class of people and ensuring the equal results rate for all groups that including minorities group. Only providing the opportunity and access to the minorities groups may not sufficient for empowering such groups. Only providing the free access to all groups in educations may not be sufficient for the better results in academic sectors. For examples, in the context of Nepal government of Nepal insures the equal access in the school level but still the students from the minorities groups does not equally get the opportunity and get equal opportunity. The students from the higher class family easily get the access of extra materials, materials for the project works, easy access for IT materials which have the greater impact in learning. So it is necessary to ensure the equal treatment for the all pupils. That is provides the specials instruments and creates the supportive environment for learning. Only providing the scholarship for learning will not sufficient. How can the pupils can learn with the hungriness? is the major issues for getting and providing equal opportunity.

(Maitzegui-Onate & Santibanez Gruber, 2012; UNESCO, as cited in (Levin, 2003) states three principle of equity as; Horizontal equity: provide the equal treatment for whom started from the same background, Vertical equity: provided the series of compensatory measures for the minorities groups for examples; women, dalit, janajati, equal educational opportunity: the series of initiatives design to ensures that everyone have the same opportunity for the success.

From above discussion it can be concluded that only the equity in opportunity and provides the incentives will not sufficient for the inclusions and empowering the minorities or suppressed group for this they have also have the rights to equally access in the results so there should adopt the equity concept in the results too. Here we can raised the questions why the equity is important in education and the answer is that to upgrade the educational quality and preservation of human rights. The opportunity of learning could not be distributed fairly and there the possibilities of great loss scientists, doctors, pilot. We do not how many such capacities are burden due to the lack of opportunity so equity was very important. The another concern on

the quality life status of peoples', if s/he have the chances to get the higher education they developed themselves and maintain good health, economics and educational standards and if there is the absence of inequality among the peoples there easy to maintain to keep the peace and harmony. Many countries loss their money for maintaining peace and security which budget can be used in development sectors because if there is no inequality there will not be the conflict and could reduce the budget of army and police force (Levin, 2003). In the context of Nepal at the time of the 12 years of conflict between the Communist (maobadi) we loss many more in quality improvement and developmental works due to higher force and budget was utilize in maintaining peace. It was very essential to the equity in education. Besides this there are many issues and challenges to addressing the equity.

Issues of equity in education

Access to the learning is the most elusive till now for the all country. Education for All [EFA] (1990) is the declaration through which all united states countries commitment and Nepal has also commit for this and stated six goals for education improvement (Nepal National Commission for UNESCO , 2003) are;

- Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.
- Ensuring that by 2015 all children, Particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete, free and compulsory primary education of good quality.
- Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programs.
- Achieving a 50% improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults.
- Eliminating gender disparities in primary and secondary education by 2005 and achieving gender equality in education by 2015, with a focus on ensuring girl's full and equal access to and achievement in, basic education of good quality.
- Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

But the present status was not satisfactory, Goal 1status- child mortality rates is nearly 50% is still questionable, nutrition are seems improving and enrollment in pre-primary is increasing nearly two third primary enrollment, goal 2 status-net enrollment in primary

education was increased despite this progress in access dropout stills is an issues, goal 3 status- gross enrollment ratio in lower secondary was increasing, goal 4 status- Dakar target of halving illiteracy was not achieved, goal 5 status- gender equality was very slower and goal 6 status- only 75% teachers are trained (UNESCO, 2015).

Form the above report there is a still issues in the access to the education and opportunity in education issues. Issues in distribution of educational goods for every child was still questionable. The access and equity incentives was not reached to the actually necessities group, those are benefited who are able to get and know the equity provision. For examples pupil who have the buildings of 4to 9 floor have got the equity benefit and who have actually need are still unknown. And another issues was need of will of individual and public to impose the equity. Another issues of equity is capacity distributions of equity and management capacity of it. That means how the equity provision can distribute. Policy targeted towards those in need, but benefits to people who do not really need. The whole systems and aims of the any program were directly affected by the political will so there is the another issues of political wills. We feel threatened to change because according to the power rule, culturally and politically powerful person were in the policy maker and they do not want to change which was forceful to them and equity will be affected so there should be inclusion in political and parliament too. Another consideration of equity issues was conserving in implications. There is a good provision in policy but vast lacking and difficult in implications. There was two major reason of the inequality was individual capacity which cannot eliminate or difficult to eliminate and another is social arrangement which can be mitigate. To sustain the equity or to mitigate inequality there should be the different strategies and approaches of equity.

Approaches of equity

The major approaches of the equity was equity in opportunity and equity in results. This concept was arise because of the providing the support in opportunity will not sufficient for the sustaining equity there should achievement and inclusion in the result also (Levin, 2003). Government of Nepal has also provided the equity in access, opportunity and results too. Government of Nepal provided different types supports for minorities and provide access to all students with the equity in result by allocation of the quota for the government job can listed as (Anonymous, 2014);

Government declared free and compulsory education up to basic level, free up to secondary level and easy access to the university level. The ultimate goal of government is education is access for all citizen and 100 % literacy rate.

To meet the target government have provided some incentives to students can be categories as **equity in opportunity** (in Nepali context) are follows(Anonymous, 2014);

- All girls get scholarships of RS 400 per/ year (6 to 10)
- Dalit boys and girls get scholarships of RS 400 per/ year
- Disable scholarship 500 to 10000 for ten months
- 50% girls scholarship get by all girls
- Karnali zone girls scholarship 100 per/month (Basic level) and 150 per month (secondary level)
- For the Lower secondary/ secondary girls ethnic, minorities, backward casts students (1700) (not in practice)
- Free ship scholarship for class six and seven
- Feeder hostel scholarship (1200/month) for girls, children from remote area, backward students who are far from school (practiced in Jumla)
- Scholarship for martyr's children (1000/month for lower secondary, 1500/ month for secondary)
- Scholarship for oppressed and Dalits (500 per head) (6 to 10)
- The constitutions of Nepal also address the equity concept in Parts 3 Article 31 rights to education

No only provide the equity in access and opportunity but the government also ensure the equity in results. The reservations in government job is allocated 45% in reservation of total seats and further classified as 45% as the 100% and allocated by Women 33% ,AdibasiJanajati 27%, Madeshi 22% , Dalits 9% , Disables 5%, Backwards area 4% (Adhikari&Khanal, 2076/2077). Such strategies adopted by the government of Nepal may not be sufficient, lets discuss about the equity strategies suggested by Levin.

Strategies of equity

Not a single strategy can mitigate the inequality, for this we should adopt the multiple strategies. Here in this article I have listed some policy strategies for equity according to (Levin, 2003) are 1) encouraging an individual in participations and success, 2)

Changing institutional delivery systems and methods, 3) Changes aimed at broader social phenomena.

Encouraging individual participation and success

1. Financial incentives. One way to support individuals in their educational efforts is to provide financial incentives of various kinds. We can provide the tuition fee support and provide the education loans for the earners and provides incentives for the in-service learners. Nepal has also offered the education loan for the master degree level and provided the study leave with the salary for the in-service learners.
2. Non-financial incentives. Participation in education can be linked to access to other benefits. For example in Nepal one should pass class eight to get a driving license.
3. Advertising and recruitment. In non-compulsory education some efforts to increase participation, particularly by target groups, involve various forms of recruitment. For example Government of Nepal has offered the different types of skills based training like automobiles training, bike workshop training, beautician training, JCB driving training, tailoring training and Montessori training and has fixed the minimum requirement in qualification :class 8 to 12 for the recruitment.
4. Support services. As awareness and other support may increase the participations and should provide the support service for the result. For examples Teacher Service Commission of Nepal prepares books for the women through which they get some facilitation in TSC.

Changing institutional delivery systems and methods

1. Creating new delivery agents. Changing the delivery agents may work effectively. For example Government of Nepal distributes the power of secondary education to local level.
2. New programs. Existing institutions may be asked, required or encouraged to extend the range of programs they offer to reach new groups of learners. For example, introducing the Technical subject in school level may increase the equity.
3. New modes of delivery. In some cases people may not have the personal problems due to house worker job holder, such students may get access if we have designed the distance learning and online learning program.

4. New credentials. Changes the minimum requirements in government services: For example, Government of Nepal has changed the condition for the requirement to be secondary level teacher to Master level and MPhil for the headmaster but not implemented yet.
5. New modes of financing. Change the mode of financing like provide incentives for the women who were enrolled in the higher education, support for the job holder for their further study.
6. Changes in policies in areas such as admissions. Change the admission policy for the territory education.
7. Support services to increase completion rates. Increases the support service who have completed the whole academic level.

Changes aimed at broader social phenomena

Existing theories and principles may not address the need of social and individual so there is necessity of change the aim or goals of the society.

1. Providing related services for learners. Learning success increases when learners have access to required supports such as adequate housing or, for adults, adequate child care.
2. Income support measures. Financial barriers to participation in learning are only partly a matter of tuition fees. Providing living costs and foregone earnings may increase enrollment and success.
3. Legal measures to reduce discrimination. Makes the legal methods for support the minorities.

For the preservation of human rights equality is necessary and equity is for the equality. There are different issues for maintaining the equity in a country like Nepal where there is a wide range of diversity. Enjoying in the diversity and promoting their diversity as their strength is the one way of increasing equality. For example developing the tailor skills as their strength, fighting strengths, introducing the technology in agriculture. Another example in classroom is to assign students to write an essay about their culture in English and social classes. Present education system of Nepal is trying to address the equity by providing scholarships for the students but in very limited numbers i.e. providing 400 or 500 per year is very insufficient. Increasing incentives and supporting in the daily earning is necessary

for continuing learning because only availability of educational materials may not be sufficient to continue their learning.

All individuals are different and have specific capacities. To bring out the internal tendency of the child, they should have an opportunity. Equal opportunity to the pupils is one of the ways of securing human rights. But only by providing equal opportunity to all pupils will they not get the opportunity at the results. So, equity practice in the classroom is the major concern of this research. The main objective of this study is to explore the equity practices adopted by the teacher in teaching science at secondary level. It helps to explore the present status of equity provision or status of implementation of the determined policy and rules or gap between the policy and practices. This research mainly focuses on the practice level at the time of teaching from the point of view of science teachers. The major focusing point of this research is displayed in the concept map shown in figure 1.

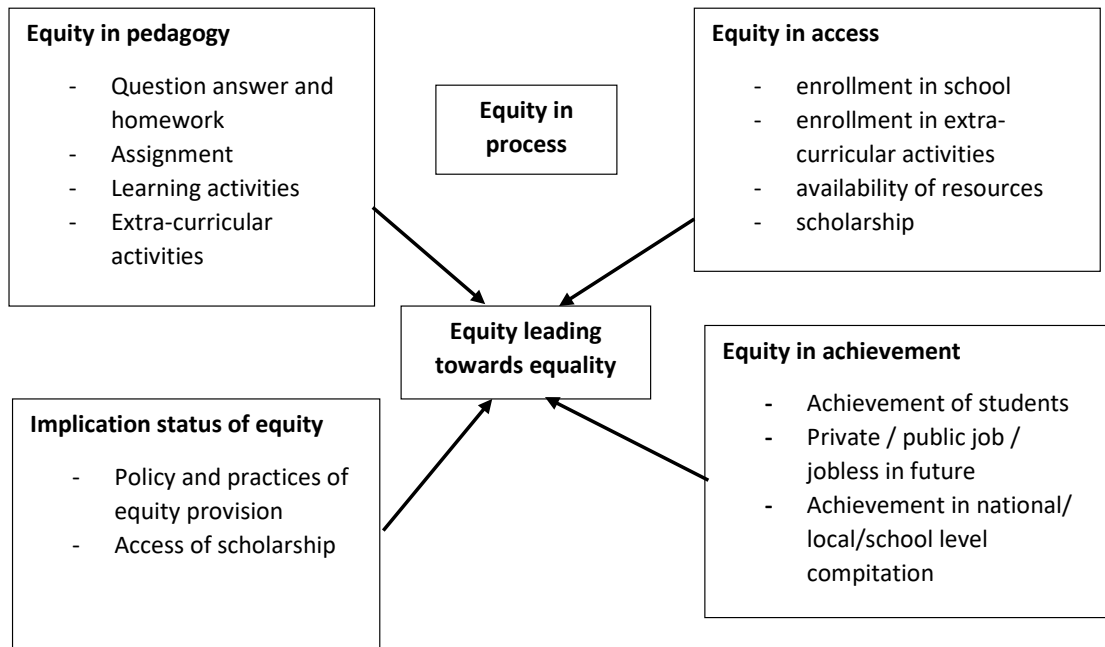


Fig 1: concept map equity practice in classroom

Information collected from the in-depth open interview with the participants are the data collection tools of the study. Interview was taken in the three stages; in the first stage, the researcher explained the aims and set appropriate and convenient time for the interview. Informed verbal consent was taken from the participants and interview

was recorded by using automatic call recorder. In the second stage; I took the in-depth interview for around an hour with each participant and at the final stage I re-interviewed to saturate the data. Convenient sampling methods were adopted for the sampling. Two teachers who have been teaching at secondary level at community school were taken as participants of the study.

Methodologies

This study based on the phenomenological design of the qualitative approach was viewed as the highly appropriate means to understand the human experiences. This study based on the interpretive paradigm, is relatively new paradigm which was strongly influenced by anthropology. Interpretative researcher interprets elements of the study, and the reality is socially constructed. According to this paradigm reality is multiple and relative (time, context, culture, value bound) (Williams, 2000). The Interpretative researcher uses ethnographic methods of informal interviewing and participant observation. It uses the qualitative research design and methods for the research. The main advantage of interpretive approach is diversifying the views and the researcher cannot only describe objects, human or events but also deeply understand the variables and data in the social context. The next advantage of this approach is that we can conduct a research in natural setting and can analyze the data using grounded theory (Pham, 2018). In this paradigm, ontology is relativistic, epistemology is subjective and methodology is naturalist.

Information from the in-depth open interview with the participants are the data collection tools of the study. Interview was taken in the three stages; in a first stage researcher explains the aims and asked the proper time for the interview. Informed verbal consent was taken to participants and interview was recorded by using automatic call recorder. In second stage; I take the in-depth interview around one hours for each participant and at the final stage I re-interview to saturate the data. Convenient sampling methods was adopted for the sampling. I choose the participants who are teaching science at secondary level and also working as the member of municipality school level exam committee. One of the participants is my close friend and the other participant is a closer friend of my first participant. It made me easier to conduct the research as the participants were familiar to me ; which ensured the trustworthiness of the data. The method of data analysis is thematic analysis because it is an accessible and theoretically flexible approach to analyze qualitative data

(Braun & Clarke, 2013). Interviews were transcribed in the Nepali language and coding processes were conducted in first stages. Reading and re-reading helped to code data effectively. Coded data were arranged and categorized into four main themes; diversity of classroom, equity in pedagogy, equity in access, equity in implications of policy, and equity in achievement.

Results and Discussion

All child have equal opportunity in learning no one will be discriminated by the means of age, cast, religions, evolutions, geographical diversity, sex, gender, economic status. Or no one be discriminated by any means. It is the violence of law and constitutions if someone do such types of activities (Nepal Law Commission, 2072). Teacher Service Commission (TSC) Nepal also include the Constitutions of Nepal, Child rights, equity and equality and inclusion concept in appointment curriculum (TSC, 2076). From this it is clear that teacher would well know about the equity and equality concept. They must have implemented equity concept in learning process.

Diversity of classroom

There is vast diversity among the students in the model school B which is lies in the urban area. Students are from the higher economic background to lower economic background, most of the students were from the low economic and educational status whose parents are in the diver, cleaner, security guard, farmer, and worked 3D works in market. Some students have no any guardians that means they are no orphan but their mother and father are not touch with them. Both are got second marriage and students manage their foods and other necessary things themselves. Participants B claims that their parents does not focus on learning, they took learning in second first priority is household work. Both of the Participants claims that their students are from the low economic community and especially from dalit, and janajiti community. Participants B share “ students are from more than 25 district including Dolpa, Kalikot, Kailali, Sindhupalhock whose parents were works at brick factory and students also helps their parents in bricks factory. Schools are diversified and teaching at such class is very challenging job.

Equity in pedagogy

(Nomlomo, 2007) Conducted a research under the supervision of Prof Zubeida Desai entitled “Science teaching and learning through the medium of English and isixhosa:

A comparative study of two primary school at Western Cape” and concluded that teachers and learners communicate better in their mother tongue. It is concluded that there is a positive correlation between the use of the learner’s mother tongue as a medium of instruction and learners’ conceptual development and academic performance in science. But the teacher are from Bhramin community and could not speak student’s language for two way communication. Participants A says he can speak Tamang little bit but only understand the Newar language but most of the students and fro Tamang community but Participants B could not speak beside than Nepali and English. This may also effect on learning science and create the diversity.

Participants A share, he is used to provide the project according to the community and culture. For example, to teach about the centrifuging he assigned to tamang students explain about the “Firki” a broom like materials used to sieve the alcohol and “Madani” a materials having fans of wood used to separate Ghee from cord for the Bhramin students. Teacher are concern about the linking the learning to their community and homes.

The practices of grouping the students according to their caste and community is also exist. Participants B experience that students learning can improve by grouping those students from same community. Besides these Participants A use rotation methods for the sitting arrangement to provide the equal access to board and teacher. But seems not to concern about the round table or U-shape arrangement. It may be the higher number of students in class and limited physical resources. Participants accepts that they were unable to provide special access according to height, age, and for other disabilities.

Implication of equity provision

All students should treated with equal opportunity or access, treatment and results but the school environment and classroom environment could be ensure such provision. Extra supports is necessary for those students who were relatively weak, and slow learner students. But the students were treated or teaches equally sitting at the front of the class. For improvement of students regular homework check was necessary and suggestions and supports for the slow learner. Homework is very supportive even it had some psychological impact. it promoted student’s collaborative skills and speaking between teachers and students for homework clarification. Findings further indicated that internet was one of the powerful tools for students’ learning and homework information (Songsirisak & Jitpranee, 2019). But both the Participants were not use to check up regular homework

checked up. Both of teacher claim that it is difficult to regular checked up due to higher number students. They were only check while the students done their homework or no. Such practices does not support for improving the slow learner students. There is no any extra supports for students for the extra books like practice book, questions collections. Teacher supports children from low economics status group by providing the teacher's copy and old extra books used by the elder students.

Equal access for the students

Equal access for the students is questionable. Students have no equal access for the schools, learning materials and ICTs materials. There is also vast differentiation among the government schools and private school. Most of the students of that level are weakly using technology. And public school students were poorer in several measured items even boys and girl students were not differing in the use of ICTs. The students of school level weakly used the ICTs for learning (Joshi, 2016). In the present situation of COVID 19 pandemic, physical classroom was totally stopped. At this situation teaching through the internet using different media radio, TV, zoom, meet, Microsoft team and other video conferencing device is used. But this situation also create the digital divide and increase the diversity of students which also add another challenge for science teaching. Both of the Participants share less than 10% of students have the access of smart phone and laptop but very few of them have laptop. If they have the smart phone but do not have the access of WIFI/ Internet and mobile network may not work properly and also have no money for data subscribe. So In these two years COVID 19 pandemic education itself create the diversity and cause of discrimination. Both of Participants accepted that very few students about 1-3% were capable for internet search and searching of online materials /news for learning but the students who were engage in social media like Facebook and TikTok is greater in number. This displays that teachers' could not motivate to students for exploring knowledge using internet and students also does not have the access of it.

Extra books, resources materials and other learning materials are fulfill by the school's library but the use and regulation of library is problematic even in model school. Both the Participants claim that "This is happen due to the unavailability of Liberian. Students do not have access of use of library even there is sufficient materials and students also have no greater interest of reading in library". It would be another of low achievement pf students. They also accept that they were unable to create and inspire students in reading culture.

Science is practical subject, so science laboratory and experimental materials had the greater importance in science teaching and learning. Engagement of science experimentation increases the scientific aptitude, attitude and skills (Tarhan & Sesen, 2010). Both Participants accepts that they were unable to increase the interest in science and link with the daily life. They also assume that if we able to link the science to the life of the students, they could be interested in scientific knowledge and skills results inventions of newer things. Due to limited time, classroom size, limited laboratory resources students have no access of individual experimental works. Participants B from the model school says that if we give the full access to use laboratory materials for the students they were destroyed it. It reflect that teacher limited the access of materials towards the students even there is the sufficient laboratory materials would be the great problem of teaching. Both Participants state that they were conducted experimental works in group but lesser in number.

Poverty is the main reason for not having the equal results

Students could not achieve the equal success rates even they have the capacity. The racial, cultural and school environment limited their capacity. Economic, cultural factors and parents' education as well as their occupation highly affected the students learning. Students from the working groups unable to pay attentions about their children. Their prime concern is on economic factors for food and shelter and education as the secondary things. They wants that their children may learn well and escape from the poverty but not providing the proper attention to their children misleads children and would not get proper opportunity. Both the Participants claims their students were from the low economic, social and educational background so it is normal that the achievements of students is lesser other schools having high economic source and parents also have provide the greater care and create opportunity. Despite this some of the students were get the targeted competition. And also raise the issues that it is not necessary to learn science equally. Participants A realize that the students who were interested in science and achieved A+ marks in science and others subject too but did not continue science in further study due the language and economics problem. But the Participants B from model schools use English as the language of teaching science did not face such problem. It would be better to teach science in English medium helps to searching more document and understand science in global context.

Conclusion

Equity practices in classroom was weaker in response. Teachers were concern about only arrangement in class and group division. But not noticed about active Participation in science and equity in results. Schools are highly diversified according to age, geographical region, cast, religions, economic status, family relationship, child-labor. To create the interest in science, teaching and learning activities should linked with the students daily life but our curriculum and education system as well as classroom practices were exam oriented. Despite of the allocation of 25 marks in practical exam, teacher provide marks to students like a donation without practical examination. This culture is also responsible for not enrollment of students in further study. From this above discussion, there would be a lack of adequate knowledge about the equity and equality provision and limited knowledge and skills to adopt in classroom. It was seem that there will be a necessary of workshop to developed the professional skills of individual teaching and incorporate the equity and equality provision in classroom teaching. Teachers are seems about concern about the equity in access but very limited concern on equity in achievement.

Providing the equal opportunity in the school would not sufficient for improvement of student's achievements and not have the possibilities of equal success rate. The main factors for the achievement is the poverty. Students from the worker class family have the problems of food, shelter and clothing and students' have no any motivation on learning with the hungriness. Without food nobody pay the greater attention on others things like education, beauty. So, only providing opportunity for the learning for the learning will not sufficient there should provide the certain economy, or providing the job opportunity to the workers groups or creates the provision of equal hosteling facility with the education for the children to improve social status of minorities and working class group.

References

- Adhikari, T., & Khanal, R. (2076/2077). *Teacher Service Commission: Guide for the secondary level teachers*. Kathmandu: Aditya Books and Distributers.
- Anonymous. (2014). *Types of scholarships provided to Nepalese students by government of Nepal*. Retrieved from Edusanjal : <https://edusanjal.com/scholarship/types-of-scholarships-provided-to-nepalese-students-by-government-of-nepal/>
- Bennett, L., Dahal, D. R., & Govindasamy, P. (2008). *Caste, Ethnic and Regional identity in Nepal: Further analysis of the 2006 Nepal demographic and health survey*. Macro International Inc.
- Castelli, L., Ragazzi, S., & Crescentin, A. (2012). Equity in education: a general overview. *Procedia - Social and Behavioral Sciences* 69 (2012) 2243 – 2250, 69, 2243-2250.
- Joshi, D. R. (2016). Use of ICT by secondary school students of Nepal. *INTERNATIONAL JOURNAL FOR INNOVInternational Journal for Innovative Research in Multidisciplinary Field*, 2(11).
- Levin, B. (2003). *Approaches to equity in policy for lifelong learning*. Canada: Education and Training Commission Division .
- Nepal National Commission for UNESCO . (2003). *Education for All: National plan for action* . Nepal: Ministry of education and sports .
- Nomlomo, V. S. (2007). *Science teaching and learning through the medium of english and isixhosa: A comparative study of two primary school at western cape*. Western Cape: University of Western Cape. Retrieved from <https://core.ac.uk/download/pdf/58913369.pdf>
- OECD. (2012). Equity and quality in education: Supporting disadvantaged students and schools. *Asia Society: Patnership for Global learning*.
- Pant , D. (2008). religion, Society and State in Nepal. *Occusional papers in Sociology and Anthropology*. doi:DOI: 10.3126/opsa.v3i0.1075
- Pham , L. (2018). A Review of key paradigms: positivism, interpretivism and critical inquiry. doi:10.13140/RG.2.2.13995.54569.

- Songsirisak, P., & Jitpranee, J. (2019). Impact of homework assignment on student's learning. *Journal of Education Naresuan University*, 21(2). Retrieved from <https://www.researchgate.net/publication/334945642>
- Tarhan, L., & Sesen, B. A. (2010). Investigation the effectiveness of laboratory works related to "acids and bases" on learning achievements and attitudes toward laboratory. *Procedia Social and Behavioral Sciences*, 2631–2636.
- The Constitutions of Nepal. (2015). Nepal: Government of Nepal.
- The Universal Declaration of Human Rights. (1948). The Universal Declaration of Human Rights. United Nations.
- UNESCO. (2015). *EF global monitoring report*. United Nations: Educational, Scientific and Cultural Organisations .
- Washington, D. (2008). *The concept of diversity*. 4819 Emperor Blvd, Suite 400: Washington & Company.
- Williams, M. (2000). Intrepretivism and Generalisation. *Sociology*, 34(2), 209-224. doi:10.1177/S0038038500000146