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# Deriving an Objective Criterion Contextualizing the Meaning of Lateral Entry Schemes

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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## **ABSTRACT**

Lateral entry schemes are intended to admit meritorious Diploma holders to the second year/third semester of various Bachelor degrees in a given discipline. Lateral entry has been accepted as a mode of admission in principle by the Sri Lankan qualification framework. Lateral entry schemes have been basically introduced at medical faculties and agriculture faculties in a couple of universities in Sri Lanka. However, there was no proper review so far undertaken to assess the criterion adopted in admitting students. Thus, this study is to contextualize the meaning of lateral entry at the outset and reveal the level of emphasis given to lateral entry schemes in both local and international arena. A literature survey, desk review and an expert interview were conducted to expose a normative criterion of admission with a future direction.

Keywords: Bachelor degree; credit transfer; higher education; lateral entry.

# 1. INTRODUCTION

The Sri Lankan Qualification Framework (SLQF) introduces a formal hierarchy of academic achievement being one of its functions to

streamline the delivery of education at different strata. Its framework is aimed at ensuring quality of higher education and training via recognizing and accrediting qualifications offered by different educational entities in the country. Meanwhile the

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National Vocational Qualifications Framework (NVQF) has been developed by the Tertiary and Vocational Education Commission with a view to unify the vocational and training segment of the country. One of the objectives of SLQF is to facilitate lateral and vertical mobility and progression within higher education and career pathways [1]. SLQF and NVQF have also been integrated at some point of hierarchy to facilitate this lateral mobility of students. Lateral progression is also possible at certain levels if the candidate meets the minimum requirements for admission to the target qualification [2]. However, none of these guidelines offer a criterion as to how lateral entries should be implemented. Mere acceptance of a lateral entry scheme in principle does not necessarily mean to maneuver according to what an individual entity would desire. A lateral entry should not be a matter of negotiation between two parties. Strictly speaking, a need of a coherent criterion arises when bypassing or deviating the traditional route of absorbing students via regular competitive admission. In Sri Lanka, the national level regular benchmark is the Z score at GCE Advanced Level. In doing so, care must be taken not to adulterate the educational values such as transparency, competitiveness and equity.

A plethora of research in this area mostly focuses on different types of affirmative action aiming to enroll more under-represented groups in higher education, mostly in developing countries due to multiethnic and metalinguistic societies. However, the research on equity associated within the concept of lateral entry is indeed scarce. Though the idea of lateral entry in itself looks decent enough, there are few obvious things to be cautious of. This research paper is to address the question of this 'nobility' attached with the concept of lateral entry as a mode of admission.

## 2. LITERATURE SURVEY

Equity in higher education has been a major concern of educational policy-makers worldwide [3,4,5]. The literature, however, is inconclusive. Many suggest highlighting the need to re-assess the current paradigms [6]. Concerns over equity of access to higher education are widespread, but there is significant disagreement over what should constitute a fair system. Access to higher education institutions should be based on an objective criterion [7]. In a descriptive assessment of higher education access in Ghana there exist accessibility and participation gaps

[8]. Student selection and admission in the Asian region are also matters of concern particularly when there is rapid growth in enrolments [9]. Meanwhile, entrance examinations appear to be an objective arrangement, as they treat all applications on a level playing field, where everybody is expected to meet the same required standard [10]. Although there is extensive research on equity and equality in access to and within higher education around which longstanding deliberations rage, the evidence used to apply in the case of lateral entry schemes tends to be quite scarce. Thus, the following section of the literature survey is to pursue the factors that essentially constitute rationality behind lateral entry as a mode of admission.

In different countries of the western region, the concept of lateral entry is also called Credit Transfer [11]. Candidates holding higher credits may consider for advanced positions quite in a short spell of time. Lateral entries have been existing in various professional spheres to directly enroll in higher positions in the state sector. Accruing benefits of reduction in course duration, less credit to be earned, less fess and coursework are few motives. As such, lateral entry is considered to be a potential of reducing training costs. In France, practicing lawyers have the opportunity to become judges via lateral entry on merit [12]. In US, lateral entry requirements will be utilized principally to subject areas where specialized skills are in short supply [13]. In India, graduates from other medical disciplines such as nursing, dental etc are allowed lateral entry into the MBBS courses [14]. India has 279 private universities and out of them, 129 offered MCA program with lateral entry facility [11]. In India, one of the many technical education options is B.Tech lateral entry. If an individual is aspiring to become an engineer, B.Tech lateral entry is the option available. The programme allows the candidate to pursue B.Tech programmes from the second year of the usual B.Tech programme at various engineering colleges in India. Most of the engineering colleges in India require a 60% aggregate in 3year diploma (Engineering - any stream) after class 10 board exam. Admission in B.Tech Lateral Entry programmes offered by engineering institutes is made on the basis of an entrance exam.

As such, creation of career paths improves opportunities for individual career advancement [15]. Diploma holders of vocational courses will

be given opportunities under predetermined conditions for professional growth [16]. This eventually supports the generation of middle level and high-level technical manpower abreast of the latest technological developments [17]. As such, lateral entry is often valued in the professional sphere because the diploma holders are equipped with strong hands-on experience. For example, an integrated engineering design education system in which lateral learning is promoted to narrow the gap between academia and industry [18]. In this manner, lateral entry helps avoid becoming vocational education a terminal in character [19].

University of Petroleum & Energy Studies (UPES), Dehradun has students via lateral entry policy for programmes in engineering and technology. The admission to any of the B.Tech programs being offered at the UPES is governed by the principle of compatibility, viz. a mapping, so that the knowledge gained by the candidate during his diploma is relevant to the program in which the admission is being sought. In a study of the lateral entry program in North Carolina [20], there were no differences found in the exam scores of the two groups in biology and mathematics. In a Georgian study [21], there were no significant differences in the grade point averages or state content examination scores at admissions [22]. Candidates who have passed the Diploma in Engineering of the State Board of Technical Education (SBTE), Tamil Nadu will be eligible for admission to the second year of the four year degree programme in B.E. under the lateral entry scheme provided other conditions are satisfied. A choice based credit system is applicable for only those candidates who have obtained a three-year diploma relevant to the program, with minimum aggregate of 60% marks in a single sitting in the qualifying examination for a diploma course, accredited by SBTE.

In this manner, credit is essentially a tool for measuring the equivalence of learning by an individual. Student mobility via lateral entry is also a function of credit that determines the viability of student mobility [23]. When students move from one institution to another, it is their expectation that relevant modules that they have previously completed will be applicable to fulfilling programme requirements at their new institution. In order for this expectation to be met, it is necessary that there be comparability and compatibility between curricula at the various institutions, a process known as articulation, which is an integral part of any lateral entry

criterion. In a nutshell, the rationality that came across are the benefits of reduction in course duration, catering professional niches where specialized skills are in short supply, improving opportunities for individual career advancement and narrowing gaps between academia and industry as well as credit transferability.

### 3. RESEARCH AIM AND OBJECTIVES

The aim of this research is to contextualize the meaning of lateral entry so as to avoid undue maneuvering the same in future. The objectives are to assess the level of enthusiasm given in both the local and international universities, uncover its local distributional pattern, reveal the characteristics and make recommendations as to how lateral entry schemes could be fully exploited for the benefit of the youth population in the country.

#### 4. RESEARCH METHODOLOGY

A literature survey was undertaken to grasp the rationality behind lateral entry schemes. A desk review was undertaken to identify the emphasis that has been placed upon by the Sri Lankan education regulatory framework for lateral entry schemes. A web search was undertaken to pin down the lateral entry schemes currently in progress within the Sri Lanka university network. An expert interview was carried out to gauge their perception and know-how towards lateral entry schemes. Hence, the research design adopted was basically a qualitative descriptive survey. This study does not have theory building as a core focus but offer complimentary data to give more depth to explore the context in which lateral entry takes place. Table 1 depicts the steps involved in the overall research.

#### 5. RESEARCH CONTENT

There are three key contents essentially entailing this research namely, desk review, web search and gauging expert opinion.

# 5.1 Desk Review

The Sri Lankan Qualifications Framework (SLQF) identifies the learning outcomes that are to be achieved by the qualification holders. According to SLQF, three distinguished advantages of lateral entry schemes are (1) open up educational opportunities for those who could not secure a place during the regular absorption

(2) enhancing the utilization of government resources that would have otherwise wasted due to dropouts in the first year and (3) giving an opportunity for government servants for their career advancement in the relevant field of specialism they serve in return for the public.

In Sri Lanka, promoting a scheme of lateral entry to university education has been a part of educational policy (Policy 10), with the aim of optimizing higher education for all. This has been introduced as a pathway for those who could not secure a place in the regular university admission [24]. It further goes onto say that the absence of a suitably designed set of procedures to formalize lateral entry arises as a consequence of understating lateral entry as a concept. On the other hand, SLQF integrates the National Vocational Qualifications Framework (NVQF) developed by the Tertiary and Vocational Education Commission and introduce the pathways of lateral mobility between the vocational education sector and higher education sector. Possible progression pathways between NVQL, the National Vocational Qualification Level and the SLQL, the Sri Lanka Qualifications Framework Level have been published after a comprehensive mapping assignment at national level [1]. It is therefore advised to prepare a validated set of programs to be used for lateral entrants in line with the above hierarchy. As part of the national policy in increasing graduate output from the universities, the University Grants Commission (at its 628th meeting held on 20th February 2003) decided that students who reach satisfactory standards at the GAQ/GSQ or any other equivalent examination can be considered for lateral entry into internal degree programs at second year and above.

It is imperative under circumstances that an appropriate credit transfer scheme facilitates the mutual recognition of credits awarded by the universities, evolve round the particular needs and be compatible with similar schemes prevalent elsewhere in the world [23]. However, the problem of credit transference has been exacerbated by the non-implementation of the Sri Lankan Credit and Qualification Framework (SLCQF) completed in October 2004 as part of the Quality Assurance Project in the University sector. It is also found that there is no benchmark or objective criterion uniformly applicable prior to introduce any lateral entry scheme other than the pathways introduced.

# 5.2 Web Search

There are 15 universities, 3 campuses, 18 institutions and 6 other government universities falling with the purview of University Grants Commission (UGC). Of them, 8 universities admit students on lateral entry basis for two disciplines namely allied health sciences (nursing, medical laboratory technology, midwifery and pharmacy) and agriculture. 2 entities have opened lateral entry for the course

 Step
 Research methodology
 Research medium
 Objective desired

 1
 Literature survey
 Peer reviewed Journal papers and conference proceedings
 Demystify the rationality behind and theory underpinning lateral entry schemes

Table 1. Research approach

Table 2. Lateral entry criterion

| Uni | Course of study   | Eligibility for lateral entry  | Exceptions  |
|-----|---|--|---|
| 1   | B.Sc Nursing<br>Degree program  | Professional Nurses, with a Diploma who are in service and working under the Ministry of Health or Provincial Ministry of Health, would be eligible for the lateral entry into Bachelor of Science (Nursing) degree  | 1 <sup>st</sup> year                                |
| 2   | B. Sc Hons in<br>Medical Laboratory<br>Science, BSc Hons<br>in Nursing and<br>Bachelor of<br>Pharmacy Honors  | Up to 30% of the students may be selected from the professionals who have completed training at training schools of the Ministry of Health in Sri Lanka, on selection examination and interview, minimum 05 year service in state sector, below 45 years, Registration in the Ceylon Medical College Council/Sri Lanka Medical Council/Sri Lanka Nursing Council | 1 <sup>st</sup> year                                |
| 3   | Bachelor of Medical<br>Laboratory<br>Sciences Honors  | Diploma in Medical Laboratory Technology offered by the Ministry of Health, Sri Lanka.   | exempted<br>from Level 3<br>courses                 |
| 3   | Bachelor of<br>Pharmacy Honors<br>Degree Programme,   | 3 years in service and working under Ministry of<br>Health, Diploma in pharmacy, below 40 years,<br>registered pharmacist, exam and viva   | 1 <sup>st</sup> year                                |
| 3   | Bachelor of Science<br>Honors in Nursing  | 3 years in service and working under Ministry of<br>Health, Diploma in Nursing, below 40 years,<br>registered nurse, exam and viva   | 1 <sup>st</sup> year                                |
| 3   | B. Sc Honors in<br>Medical Laboratory<br>Sciences   | 3 years in service and working under Ministry of<br>Health, Diploma in MLS, below 40 years, registered<br>MLS practitioner, exam and viva  | 1 <sup>st</sup> year                                |
| 4   | Bachelor of<br>Information<br>Technology (BIT)<br>Ext   | Diploma in IT/HNDIT  | Level 1/2   |
| 5   | BSc (Agriculture)   | A two year Diploma in agriculture of the Department Agriculture, Advanced Institute of Technology of SLIATE, Aquinas college, TTI Katunayake, VTA or any other recognized institution approved by Ministry of Higher Education, or National Diploma in Plantation by NIPM with 5 years   | 1 <sup>st</sup> year                                |
| 6   | BSc (Hons) Nursing / BSc (Hons) Medical Laboratory Sciences / Bachelor of Pharmacy / BSc (Hons) Physiotherapy/ BSc (Hons) Radiography / BSc (Hons) Radiotherapy | For those who are in-service and working under the Ministry of Health, Diploma in respective discipline and registered with Sri Lanka, Medical Council (SLMC)/ Sri Lanka Nursing Council (SLNC).5 years' service under the Ministry of Health, below 40 years, Aptitude and English Language tests, interview and orientation program                            | 1 <sup>st</sup> year                                |
| 7   | Degree<br>B.Sc in Agriculture<br>Special  | Diploma in Agriculture, Maximum ten (10) candidates will be selected based on the performance of the written examination and the interview. Employees in the Agricultural fields of Government sector organizations  | 1 <sup>st</sup> year                                |
| 8   | B.Sc in health<br>Promotion (Lateral<br>Entry) General<br>Degree Program  | 5 years' service, 45 years age, aptitude test, for PHI, midwifes, nurses in public sector, license holders   | 1 <sup>st</sup> year of 3<br>year degree<br>program |

Table 3. Expert interviewee profile

| Designation of Respondents | Years of experience |          |          |              |
|----------------------------|---------------------|----------|----------|--------------|
|                            | 10 to 15            | 15 to 20 | 20 to 25 | More than 25 |
|                            | Received            | Received | Received | Received     |
| Director                   | 0                   | 1        | 0        | 0            |
| Dean                       | 0                   | 0        | 2        | 0            |
| Deputy Vice Chancellor     | 0                   | 0        | 0        | 1            |
| Vice Chancellor            | 0                   | 0        | 0        | 1            |
| Former Vice Chancellor     | 0                   | 0        | 0        | 1            |
| Total Responses            | 0                   | 1        | 2        | 3            |
| Rate of Response           | 100%                | •        | •        |              |

of information technology leading to a bachelor degree. A one entity conducts certificate level courses open for lateral students and it was not considered in this analysis. Altogether, the lateral entry scheme has been open for 16 different courses of studies leading to bachelor degrees. Table 2 details out these courses and their admission criterion as appeared in the respective web sites.

### 5.3 Expert Opinion

Expert interviews have significant advantages over other methods of data collection. Due to the fact that respondents are highly qualified in the analyzed question, it eliminates the need to use additional screening [25]. This type of survey is uniquely aimed at obtaining reliable data because respondents' competence is very high [26]. The non-formalized interview has an extensive range of issues that do not require comparing questions to answers [25]. It is anticipated that different respondents provide different information or perception relating to the proposed questions. For the purpose of this preliminary interview, 5 emeritus professors, being academics of high profile, were selected using purposive sampling method. Interviews helped establish the appropriateness of the questions, obtain early suggestions on the viability of the research, gather information on their exposure to lateral entry schemes and practical problems experiencing in the current deliveries. Table 3 provides the profile of 13 experts constituting the sample size.

Purposive sampling is a technique widely used in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources [27]. This involves identifying and selecting individuals that

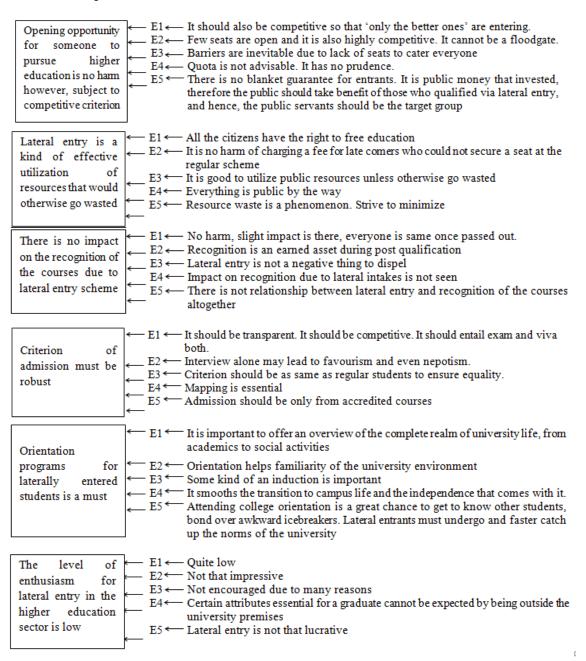
especially knowledgeable experienced with a phenomenon of interest [28]. Qualitative inquiry should typically focus on relativity [27]. As such, there are no rules for sample size in qualitative inquiry [27]. Deriving a consensus is the centerpiece of the analytic process which basically a sieving and comparison of the key opinion captured during telephonic conversation.

The technique of dialogue mapping was used to codify data gathered in the telephonic interview had with the experts. Dialogue mapping is a qualitative data analysis technique which is of most use as a tool for group exploration of issues [29]. In dialogue mapping, the ideas are recorded in a clear diagram accompanying remarks. It helps arriving at a common consensus from individual thoughts. Because of a clear overview, the participants will discover where certain bottlenecks may be located and where additional attention is required [30]. It helps when all the participants have a clear overview of all the ideas that have been properly recorded [31]. Fig. 1 depicts this flow of consensus from arrows given right to left.

The summarized consensus among the experts is as follows:

- It is no harm of absorbing students via a competitive and transparent scheme as long as the seats are available.
- Lateral entry helps avoid under-utilization of public resources that would otherwise go wasted due to vacant seats.
- Recognition of a degree depends upon how meritorious the graduates are in the industry and recognition and lateral entry has no significant correlation.

- A coherent criterion that encompasses both aptitude test and viva is imperative.
- It is advisable to strictly abide by the SLQF and NVQF where pathways and accreditation has been introduced. Hence, it is imperative that the students for lateral entry are taken from accredited sources.
- Orientation is important for acclimating students to their new surroundings.
- Success has not been researched and reported.
- Intake size is a part of university policy from time to time.
- Lateral entry scheme is not appropriate for all the courses.
- Studiousness and lateral entry has no correlation.



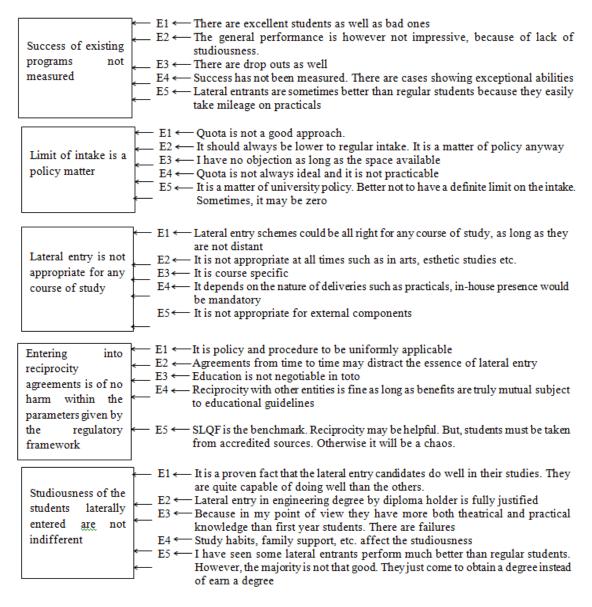


Fig. 1. Dialogue mapping results

## 6. FINDINGS AND DISCUSSION

The desk review reveals a preliminary set of guidelines common in all lateral entry schemes to date. This includes recognition of credits for tertiary education of the lateral entry and professional qualifications to match academic qualifications for lateral entry into an academic program. It was found that lateral entry into programs is only for bachelor degrees and these students are admitted in the third semester of the given program and should complete the program into which they are admitted, in three years or in some cases five years. The number of seats for

lateral admission is not fixed and these are being made against the dropouts, seats remaining vacant and students, who failed, debarred in the first year of the programs and should not be more than 10% of the approved strength of the program for the batch. Hence, there is no blanket guarantee as to number of students as such. The students admitted under the lateral program are allowed to change the program.

The basis of the calculation of the attendance shall be from the date of commencement of the classes prescribed by the University by its academic calendar. In admission, the number of

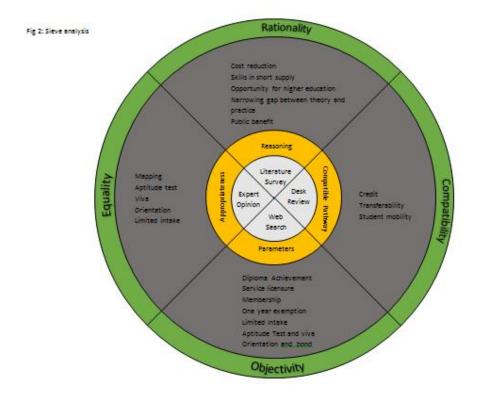


Fig. 2. Sieve analysis

Table 4. Normative criterion of admission

| #  | Variable               | Admission criterion   |
|----|------------------------|---|
| 1  | Source of students     | Relevant discipline of the public sector                                  |
| 2  | Age restriction        | Below 40 years  |
| 3  | Minimum qualification  | SLQF/NVQF Accredited diploma in the relevant discipline                   |
| 4  | Minimum public service | 5 years   |
| 5  | Other qualifications   | Registered member/licensee  |
| 6  | Degree considered      | Bachelor degree   |
| 7  | Exemption              | 1 <sup>st</sup> year/1 <sup>st</sup> two semesters                        |
| 8  | Intake size            | 5 #s, subject to maximum of 10% of the regular intake (university policy) |
| 9  | Requirement            | Aptitude test and viva  |
| 10 | Post selection         | Orientation program and 5 years bond                                      |

seats should be notified as a matter of transparency. Applications shall be invited by post, email and online mode. Candidates should be called for test-cum-interview session with the weightage as Written 80% and Personal interview 20%. The selected candidates should be notified through a posting on the website of the university and by mail. The selected may have to go through a special induction course. After selection and fulfillment of the admission

formalities, students will be considered on a par with the other regular university students.

Experts are of the firm view that lateral entry schemes are an important source of admitting students to the higher education system. They are optimistic with the Sri Lankan Qualification Framework which principally accepts lateral entry schemes. Experts cited opinion on 10 key aspects namely, educational opportunity to

pursue a degree level qualification, use of public resources, impact on the recognition, admission criterion, success factors, limit of intake, inappropriateness for certain disciplines, studiousness and the level of enthusiasm given to lateral entry schemes in the university sector. Experts insist of an objective criterion of admission in order to ensure transparency and competitiveness and emphasized that education is not negotiable.

While summing up the foregoing findings, Table 4 offers a normative criterion of admission.

# 7. CONCLUSION AND RECOMMEN-DATIONS

Opinion became the primary source of literature in this research. Opinion from scholars was closely examined to gauge the common views held by them. When bypassing the traditional route, however, care must be taken not to adulterate the educational values such as transparency, competitiveness and equity. Hence, any lateral entry scheme has to follow a coherent criterion such as compatibility via a transparent mapping assignment, prior learning credit assignment, test-cum-interview admission and an orientation program once selected. Hence, it is imperative to understand the fact that lateral entry should not be a matter of negotiation in universities operated by public money. These findings imply the need for paradigm shift in lateral entry schemes which should in fact be intelligible enough to address the concerns related to meritorious admission.

#### **FURTHER RESEARCH**

An empirical study can be conducted to evaluate the perception of two student groups, namely regular students and students laterally entered using simple random sampling technique. Data can be collected through a questionnaire and analyzed by the use of mean and t-test and check statistical significance.

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#### **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

#### REFERENCES

- Sri Lanka Qualifications Framework, Ministry of Higher Education, Third Print; 2013.
- Sri Lanka Qualifications Framework (SLQF). University Grant Commission, Updated Version; 2015.
- Anae M, Anderson H, Benseman J, Coxon E. Pacific Peoples and Tertiary Education: Issues of Participation. Final Report. (No.D-Anae.M0201). Wellington: Auckland Uniservices prepared for Ministry of Education; 2002.
- Halsey A. Trends in access and equity in higher education, Britain in International Perspective. Oxford Review of Education. 1993;19(2):129-140.
- 5. Smyth R, McClelland J, Lister, Steenhart K, Sargison A, Westwater K, et al. OECD Thematic Review of Tertiary Education: New Zealand Country Background Report. Wellington: Ministry of Education; 2006.
- Boaz Shulrufa, Rolf Turner, John Hattiea.
   A Dual admission model for equity in higher education: a multicohort longitudinal study, World Conference on Educational Sciences 2009, Procedia Social and Behavioral Sciences 1. 2009;2416–2420.
- 7. Tristan McCowan. Three dimensions of equity of access to higher education, Compare, UCL Institute of Education, London, UK. 2016;46(4):645-665.
- Francis Atuahene, Anthony Owusu-Ansah.
   A Descriptive assessment of higher education access, participation, equity and disparity in Ghana, SAGE Open. 2013;1–
- 9. Grant H. Student selection and admission to higher education: Policies and practices in the Asian region, Higher Education. 1994;27:313–339.
- 10. Asian Development Bank. Access without Equity?, Finding a Better Balance in Higher Education in Asia, Report on Higher Education in dynamic Asia; 2012.
- Paul et al. MCA Program and Lateral Entry Opportunities in India; A study of private Universities, International Journal on Recent Researches in Science, Engineering & Technology. 2018;6(1):9-16.

- 12. Peter C, Herbert M. The oxford Handbook of empirical legal research. 2010;537.
- Department of State. Newsletter for foreign services and departmental personnel; 1962.
- National Educational Policy. Ministry of Human Resources, India; 2019.
- Maclean R, Wilson D. International handbook for the changing world of work, Bridging academic and vocational learning, Springer; 2009.
- Agraval. Third historical survey of educational development in Sri Lanka, Concept publishing company, New Delhi; 1994.
- Kolhatkar MR. Educational planning and national development. MD Publications Pvt Limited. 1997;188.
- Aleksander C. Integrated engineering design education: Vertical and lateral learning. Journal of Integrated Design and Process Science. 2017;21(2):45-59.
- Bahatkal S. Contemporary India, GR Bhatkal Memorial Lectures, 1975-1995, Popular Prakashan. 1998;101.
- 20. Hawk PP, Schmidt MW. Teacher preparation: A comparison of traditional and alternative programs, Journal of Teacher Education. 1989;40(5):53-58.
- Guyton E, Fox MC, Sisk KA. Comparison of teaching attitudes, teacher efficacy, & teacher performance of first year teachers prepared by alternative and traditional teacher education programs. Action in Teacher Education. 1991;13(2):1-9.
- 22. Kenneth M. Zeichner, Ann K. Schulte. What we know and don't know from peer-reviewed research about alternative

- teacher certificate programs. Journal of Teacher Education. 2001;52(4):266-282.
- Tillekeratne K, Somaratna KT. Development of a Credit Accumulation and Transfer Scheme (CATS) for the Sri Lankan University Sector, Research Studies on Tertiary Education Sector, National Education Commission Sri Lanka; 2004.
- National Policy framework on higher education and technical and vocational education. National Educational Commission, Sri Lanka; 2009.
- 25. Natalia M. Libakova, Ekaterina A. Sertakova. The Method of Expert Interview as an effective research procedure of studying the indigenous peoples of the North, Journal of Siberian Federal University. Humanities & Social Sciences 1. 2015;8:114-129.
- Dorussen H, Lenz H, Blavoukos S. Assessing the reliability and validity of expert interviews. European Union Politics. 2005;6(3):315-337.
- 27. Patton MQ. Qualitative Research & Evaluation Methods, Sage, Thousand Oaks, CA; 2002.
- Cresswell JW, Plano Clark VL. Designing and conducting mixed method research. 2<sup>nd</sup> sage; Thousand Oaks, CA; 2011.
- Jenny B. Mapping methods of qualitative data structuring, IOE Conference; 2003.
- 30. Conklin J. Dialogue mapping: Defragmenting projects through shared understanding, Cognexus Institute, White Paper, Napa, CA; 2003.
- Roehl H, Knuth M, Magner C. Mapping dialogue: Essential tools for social change. Taos Institute Publications; 2008.

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