Education Perspectives

අධ්‍යාපන පර්යාලෝක

கல்வி நோக்குகள்

Vol.5 No.1 January 2016

ISSN 2279-1450

Research and Development Branch
Ministry of Education
Sri Lanka

1,500 (2016) Savinda Graphic Systems (Pvt) Ltd.

Education Perspectives

Education Perspectives is a bi-annual publication and publish articles in English, Sinhala & Tamil. It is published by the Research and Development Branch of the Ministry of Education, Sri Lanka. The views expressed by the authors are their own and do not necessarily reflect the policies of the Ministry of Education.

ISSN 2279-1450

Notes for Contributors

Research articles can now be submitted

The Education Perspectives invites research articles and special issues on specific topics of interest to national audience of education. Articles of high quality educational research will be accepted.

How are articles assessed?

Articles are subject to a review process by a well-known panel of academics who are experts in their relevant field of education. Each manuscript will be reviewed by a reviewer/s to examine whether it meets the scope of the issue and the standard required for publication and also for editing, if necessary. The comments and suggestions of reviewer/s will be fed back to the author/s for resubmission of the manuscript after making necessary amendments. Recommendation of the reviewer/s is a must for publication of the article.

How should articles or papers be submitted?

All submissions should be made via j.tillakaratne@moe.gov.lk and a copy to j.tillakaratne@gmail.com or through registered post to the following address:

Editor
Education Perspectives
Research and Development Branch
Ministry of Education
'Isurupaya'
Battaramulla

Guidelines for authors:

- The article should not exceed 6000 words
- Abstract should be about 150 – 200 words There should be minor & major key words
- The article should include the following :
  - Introducing the problem / research background / nature rationale
  - Literature review / theoretical and practical background
  - A brief description of methodology
  - The result of the study supported by relevant data
  - Discussion of findings / Recommendations
- Reference should be arranged in alphabetical order and conform to the style recommended by the American Psychological Association.
- Avoid footnotes. If there are any, it should be separately numbered and added to the end.
- Statistical tables should be included at appropriate places. Longer statistical tables should be numbered and given at the end as annexes.
- Fonts to be used
  Sinhala-FM Malithi
  Tamil-Baamini
  English-Cambria

Calling articles for January 2017 issue:

The deadline for articles for (Vol.6 No.1-January 2017) will be notified later.

Education Perspectives

Contents

Executive Summary

This volume contains articles on different themes, which are related to education. The first article is based on a timely topic expressing ***"accelerating education development for economic prosperity & social well-being"*** of the people of Sri Lanka. The article clearly stated the importance of human capital in the modern world. The paper discuses several options to advance the process expeditiously through education and training systems, from early childhood education to university level. It further highlights the international evidence which attributes that investment in early childhood education continuously brings high cumulative returns and is one of the most cost effective ways to promote economic growth & social equity. This idea is further substantiated by research points issued in 2015 by AERA (American Educational Research Journal), high quality early childhood programs produce children with better school readiness skills and yield substantial long term benefits including higher graduation rates, fewer school dropouts, less need for special education and less crime. This is specifically true for low income children and for those whose parents have less education. Further, the most effective programs are center based and offer a curriculum that is both intellectually rich and broad enough to meet children's social & emotional development needs. AERA pointed out that high quality center based programs should include (a) rich curriculum (b) a responsive & well educated staff, which will yield substantial long term benefits to the children and society at large. Most of these findings are verified by the writers of the first article.

The writers argue that Sri Lanka is a country with one of the lowest level of spending (except 2016) on public education among the middle income countries. This low investment resulted, in the inability of the education system to produce quantitative & qualitative human capital for the future development of the country. The continuous decline in educational expenditure tended to reduce the standards and quality of education at all levels. This situation is elaborated in IIEP newsletter (International Institute of Education Planning Letter-vol. xxxii no 1 January-June, 2016), "The right to education cannot be achieved without a clear commitment from governments to mobilize financial resources". Further, under the sustainable development goals (SDGs) as education is a cornerstone, financing and planning of education would require a broader and more holistic approach with renewed

commitments from governments. Further, following steps have been suggested to achieve sustainable development goals (SDGs 4), in 2030.

01. Ensuring free primary & secondary education
02. Governments have the main responsibility for providing equitable financing (the international community benchmark is at least to allocate 4-6% of GDP to education and/ or devoting at least 15-20% of public expenditure to education)
03. Adequate financing for all levels (specially targeted to address different forms of marginalization)
04. Implementation arrangements are equally important to achieve sector goals (the actual execution level due to institutional & capacity constraints)
05. More and better financial data for evidenced based planning (how much is spent and on what; where do the funds go; who benefits; unit cost;)

The writers highlight that the skills and competencies needed for economic development are undergoing a worldwide transformation. This argument is strengthened by the following UN resolution (A/RES/145). UN General Assembly decided to recognize July 15 of each year as the World Youth Skills Day (WYSD) and adopted a resolution to foster "the acquisition of skills by youth to enhance their ability to make informed choices with regard to life and work and to empower them to gain access to changing labour markets".

The writers elaborate re-orientation of the school education system to promote socio economic skills & rapid equitable improvement of learning outcomes are of major importance. To achieve that, improving learning outcomes of the children in the lagging provinces, should be encouraged. It will be of great importance for equitable development and the promotion of shared prosperity. There is a wide variation of learning outcomes of grade 8 students by provinces (2012) in English, Mathematics & Science, as shown in the study which was conducted by the NEREC, University of Colombo. Also writers argue the school system has major role to play in social cohesion, as a multi ethnic and multi religious liberal democratic society. This idea was further authenticated by the Singapore story. Singapore's success is mainly due to the great vision of their legendary PM the late Lee Kuan Yew. In 1965, Singapore PM had discussed the problem of national identity in the educational context. Policies were initiated to achieve unified national education system based

on the principle of parity treatment for the four official language streams Malay, Chinese, Tamil & English. Singapore PM had a great belief in the power of education to reshape & restructure the society in the interest of nation building. PM described

"If in the four different languages of instruction, we teach our children four different standards of right & wrong, four different ideal patterns of behavior, then we will produce four different groups of people and there will be no integrated coherent society…….What is in the balance is very foundation of our society. If we are not to perish in the chaos caused by antagonisms and prejudices between water right cultural & linguistic compartments, then you have to educate the right responses among our children in schools".

Singapore politicians felt that there was an urgent need to develop well integrated, socially disciplined society (Kwong & Kooi, 90).

…Produce a community that feels together…. The reflexes of group thinking must be built to ensure the survival of the community. …This means a reorientation of emphasis and a reshuffling of values

(Lee, 1996 a).

Broadening & deepening vocational & technical skills in the labour force and transforming higher education to meet demands of the global oriented system, issues were also discussed in the first article.

The acquisition of skills, is explained by the Austrian Physician Sigmund Freud (1865-1939) 50 Years ago, "With the passage of years of our life, world also moves forward at double speed, with new challenges emerging against us. If we are not adequately skilled to confront them, we shall be doomed, for which we cannot blame anybody else, but our own-self" .

The second & third articles are focused on usage & efficiency of the 5E model, which is an internationally used teaching method. 5E model described as "a student centered inquiry based model of instruction that in cooperates a variety of engaging activities which motivate students, build curiosity & enhance their conceptual understanding from a scientific approach". According to the literature this is widely used to teach science & history, where the skill of exploration is needed. The second article ***"A critical study on the effect of instructional leadership of principals on implementation of 5E teaching model in secondary schools"*** is to find out how the instructional leadership role of principals effect the 5E teaching model in teaching

from grade 6-11 classes in secondary schools in Puttalam district, Sri Lanka. The research sample consists of 40 principals, 10 deputy principals, 80 teachers and 25 students, representing all types of schools (1AB, 1C, Type 2 & Type 3). The method of 5E was introduced in 2007, to the Sri Lankan education system and all the subjects from grade 6-11 were expected to be taught using 5E model. The syllabuses were revised into competency based and the text books and the teachers' manual were reproduced. All the activities related this model conducted by the National Institute of Education.

The writer argues, that the general view of the role of principal is often administrative. But as an educational leader the widely expected role is an instructional role. From this study, as an instructional leader the principals guidance towards the staff development, support given to the teaching-learning process, supervision procedure, provision of teaching-learning materials, provision of resources were subjected to scrutiny. According to the study 85% of the principals were aware of 5E teaching model. Only 28% agree that 5E used in their schools. 27.5% agree that the teachers in secondary classes of their schools have received training on 5E. Further, many activities as an instructional leader by the principal were not function to the expected level. Teacher appraisal were not functioning systematically in schools. Also schools were weak in providing necessary materials for the teachers. The interest of teachers to learn about new teaching methods was also very weak. 20% of teachers from all types of schools agree that 5E is suitable for all lessons, while 72.5% says 5E is suitable only with some lessons. 40% of teachers have stated it is very difficult to cover the syllabus if they use 5E model. Therefore 76.3% do not use 5E in their teaching. This opinion further strengthened by the deputy principals and the students. 90% deputy principals agree that the 5E is an effective teaching model. Nevertheless deputy principals say that they have not been trained on this method and that the teachers do not successfully use this method. Finally the writer conclude that the teachers' attitudes regarding 5E model is very negative. Hence the writer come to a conclusion that even though it's a child centered method, that the 5E model is not successfully implemented in secondary classrooms.

Third article***"the impact on teaching through 5E model: Perspectives of prospective teachers in teaching science in secondary schools in Gampaha district"*** investigates classroom management and discipline problems encountered by the prospective teachers. The sample consisted of 60 Math & Science prospective teachers at the Siyane National College of Education. The writer specified learning theories are

based on two approaches. Those are behaviorist & cognitive approaches. The behaviorist approach describe learning as an acquisition of new behavior, seen in observable behavior and disregarding any mental activities. On the other hand, cognitive approach discover the huge emphasis on mental process on how people learn, remember and interact. In cognitive learning theory, cognitive process is more important than stimulus respond. In cognitive learning theories, constructivist approach is the most common one. Piaget is the first person who introduced this approach and briefly describes how knowledge is constructed in the mind of learners. Constructivism gives the ownership of learning process to students, while teachers role are being a coach. The writer says constructivist learning theory put into practice in science education as 4E, 5E & 7E models. The biological science curriculum study (BSCS) a team led by principal investigator Roger Bybee developed the instructional model for constructivism called, 5Es. Moreover effectiveness of this model is well documented in contemporary research. Further recent studies show that the use of this model had positive changes in students' mastery of subject matter, scientific reasoning and interest & attitudes towards science.

Through this research the writer looks at the practicability of the 5E model, the positive & negative effects & classroom management problems when utilizing 5E instructional model by the prospective teachers. The second & third writers found that when utilizing 5E model that most pressing problems are time management & too much preparation for teachers. Also Disciplinary problems were encountered. Nevertheless writer concludes this model helps to create more productive moments in the classroom. Therefore the teaching of science will be thought provoking and beneficial for all science teachers through this model, if it's used. This effective research based instructional model can help students learn fundamental concepts in science and other domains. Therefore writer has encouraged to teach, & prospective teachers to use this model very soundly, by narrowing down negative effects.

The next article focuses on ***"teachers' perception on factors affecting their participation in professional development practices"*** and identified two main factors affecting teacher participation in professional development practices. The sample consisted of 155 graduate teachers following PGDE at the Open University, regional center in Jaffna & 86 graduate teachers following PGDE at the University of Jaffna in 2014/2015 academic year. The study found five facilitating factors and same factors had become inhibitive factors for some graduate teachers. The identified five facilitating factors were school, personal, institutional, family & social.

Simultaneously the preventive factors were time, heavy work load, institutional, personal, school, family, and factors related to administration. Teachers should enhance their knowledge, skills and attitudes enable them to improve the quality of teaching-learning process.

The following article ***"a content analysis of MPhil theses in education submitted to the University of Colombo"*** analyses 189 theses submitted to faculty of education during 1975-2013 period. The researcher found that 11 pages have been used as front pages, four patterns dividing the chapters, more were under quantitative analytic research method, the mostly used data collection method was a questionnaire, analytic methods used were with graphs & figures and the mostly discussed topic is curriculum (22.75%). The subjects were Buddhism, Social Studies, Sinhala, Mathematics, Geography, Primary, Science & Commerce. What is more important to the system is whether there is a link between education research, policy & practice. Also, the faculties/departments of education should encourage the participants to select topics on the most pressing problems in general education.

The article "***skills of lesson planning & practices of prospective teachers***" examine the lesson planning skills and practice of the prospective teachers in National Colleges of Education, in Mathematics curriculum. Quantitative data were collected administering a questionnaire to a sample of 280 prospective teachers. According to the responses, prospective teachers emphasized that they do not have sufficient knowledge on subject matter, use diverse teaching methodologies, use of teaching aids effectively, construct of assessment items, use of group work & design strategies to motivate the students etc. According to the writer the current mathematics curriculum consists of only eight competencies, related to planning lessons. Based on the conceptual framework, it is not sufficient to strengthen abilities to design daily lesson plans. Therefore the writer suggests revitalizing the mathematics curriculum of NCOE to enhance daily lesson planning skills of the prospective teachers.

The first Tamil article ***"challenges & remedies in the efficient usage of quality inputs in schools"*** investigate the issues pertaining to the efficient use of quality inputs, in Tellippalai (Jaffna) division. Out of 34 schools, 11 schools have been selected, for the sample. The study has identified the weaknesses of inadequate allocation, irregular distribution, less transparency, negative attitudes among teachers & principals. To overcome the weaknesses the following suggestions have

been recommended. Timely release of quality inputs, Transparency in finance, Regular supervision & monitoring, promoting usage of quality inputs for curricular development.

The final article inquires ***"contribution of Saivism to develop love, discipline & social regard"*** among students. Writer believes that good qualities among students are decreasing and what the future would hold in the absence of these qualities, which at one time nurtured the well-being of the human race. An ethical person will uphold good values, in all forms of social interaction, at any place. Therefore the writer investigates by teaching Saivism, how schools will be able to avoid the bad habits among the students and inculcate good habits. The result show, that Saivism influences 43% of the students' good behavior.

ACCELERATING EDUCATION DEVELOPMENT FOR ECONOMIC PROSPERITY AND SOCIAL WELL-BEING

Harsha Aturupane[1] and Mari Shojo[2]

Abstract

The country has a vision for rapid economic growth and equitable social and political development. Human capital is of central importance in the modern world, and will need to play a leading role in support of the country's vision for future economic, social and political development. This paper discusses several options for the accelerated expansion and development of the education and training systems. An ambitious program for early childhood education is needed to improve the life-chances of young children, especially children from poorer regions and more vulnerable households. The primary and secondary education system needs to be transformed to promote the socio-emotional skills and cognitive skills required for economic development and political democracy. General education also needs to build the civic values and attitudes that form the foundation of a harmonious multi-ethnic and multi-religious society. The country needs to sharply increase the availability of good quality vocational and technical skills for the labor market to meet the needs of industry and to improve job prospects for youth. Sri Lanka also needs to transform the higher education system. Higher education enrolment needs to expand in degree programs of strategic economic importance. Further, there needs to be an accelerated drive to create and foster strong science, technology and innovation linkages between higher education institutions, research centers and industry. Finally, leadership from higher education institutions is needed to shape Sri Lanka into a vibrant and liberal democracy.

Introduction

Sri Lanka was once a world leader in education outcomes among developing countries. Early and progressive education policies, and sustained public investment over many decades, have resulted in several significant achievements [Little (2010), Wehella and

[1]Harsha Aturupane, Lead Education Specialist,The World Bank.
[2]Mari Shojo, Education Specialist,The World Bank.

The authors acknowledges the assistance of Kurt Larsen (Senior Education Specialist) and Roshini Ebenezer (Consultant) of the World Bank in the preparation of this article.

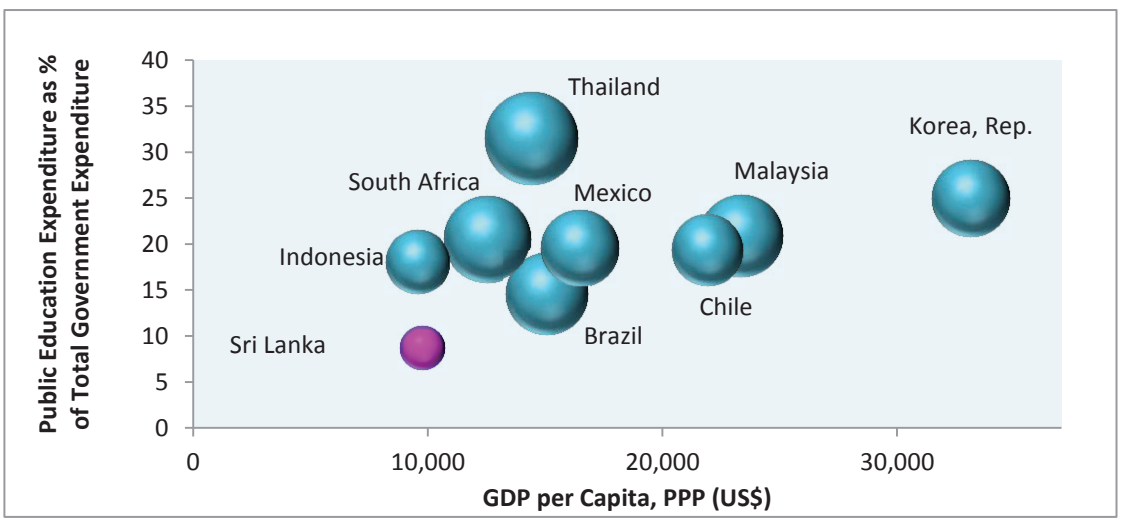
Disclaimer: The views expressed in this article are solely those of the authors, and should not be attributed to the World Bank.

A previous version of this paper was presented by Harsha Aturupane at the Annual Conference of the Sri Lanka Economic Association in August, 2015.

Balasuriya (2014)].The country has universal access to primary and secondary education. Over 95 percent of children complete primary education and the survival rate in secondary education up to grade 11 is around 85 percent. Gender parity in general education is also high, with equal participation of girls and boys in primary schools, and more girls completing secondary education than boys [World Bank (2011)]. Sri Lanka's past achievements in education have contributed substantially to economic welfare and living standards over the long term [Himaz and Aturupane (2011)].

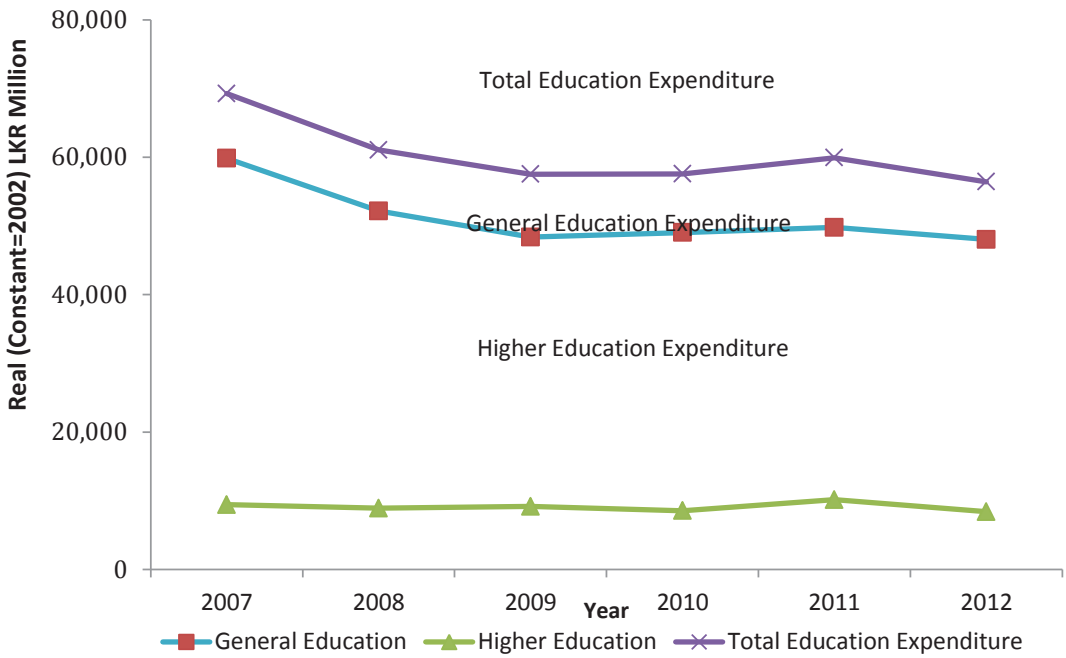
During the recent past, however, education received relatively little policy attention. As a result, the pace of education development decelerated. The country now has one of the lowest rates of public education spending among Middle-Income Countries (MICs) [Figure 1].This has been caused by public investment in education declining in real terms over several years [Figure 2]. The ability of the education system to produce an adequate quantity and quality of human capital for the future development needs of the country was constrained by low investment.

Figure 1: Public Education Expenditures in International Perspective (percent)



Source: Based on World Bank Education Statistics Data, 2012/13 or nearest year available.
Note: The bubble size corresponds to public expenditure on education as share of GDP.

Figure 2: Time Trend of Education Spending, 2007-2012 (LKR Million)



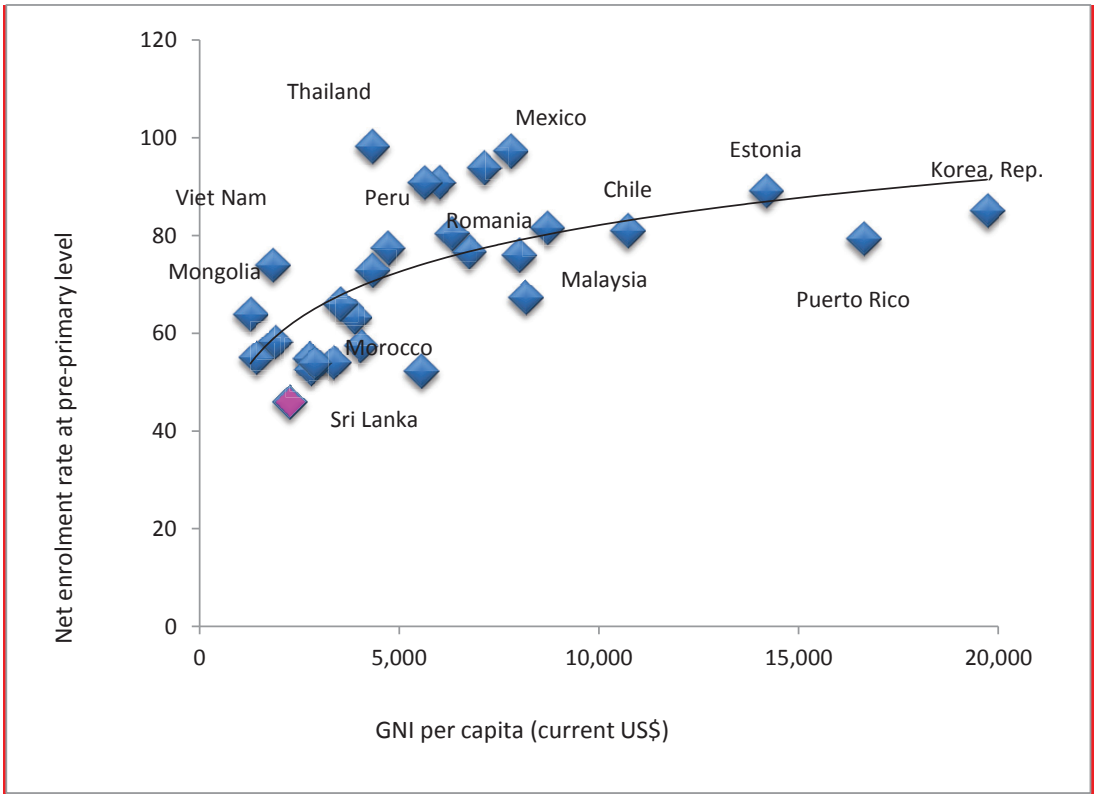
Source: Budget Estimates, Ministry of Finance and Planning.

The new Government of Sri Lanka has placed education high on the policy agenda, and is seeking to accelerate the accumulation of human capital. The government is also committed to increasing investment in education in the future. The education and training systems need deep and wide-ranging development initiatives to generate more productive and higher quality jobs, support faster and more equitable growth, and create the values and attitudes required to build a harmonious multi-ethnic and multi-religious democracy. This paper discusses several priority areas for future development of the education and training sectors in the sections below.

Launching an Ambitious Early Childhood Education Program

International evidence demonstrates that investment in Early Childhood Education (ECE) consistently brings high cumulative returns, and is one of the most cost-effective ways to promote economic growth and social equity [UNESCO (2007), World Bank (2014)]. Developmental delays which take place before the age of 6 are not reversible later on, or are reversible only partially and at high costs. High quality ECE greatly improves chances of success in life for young children. ECE is especially important for children from poor households who usually lack sufficient age-appropriate education opportunities.

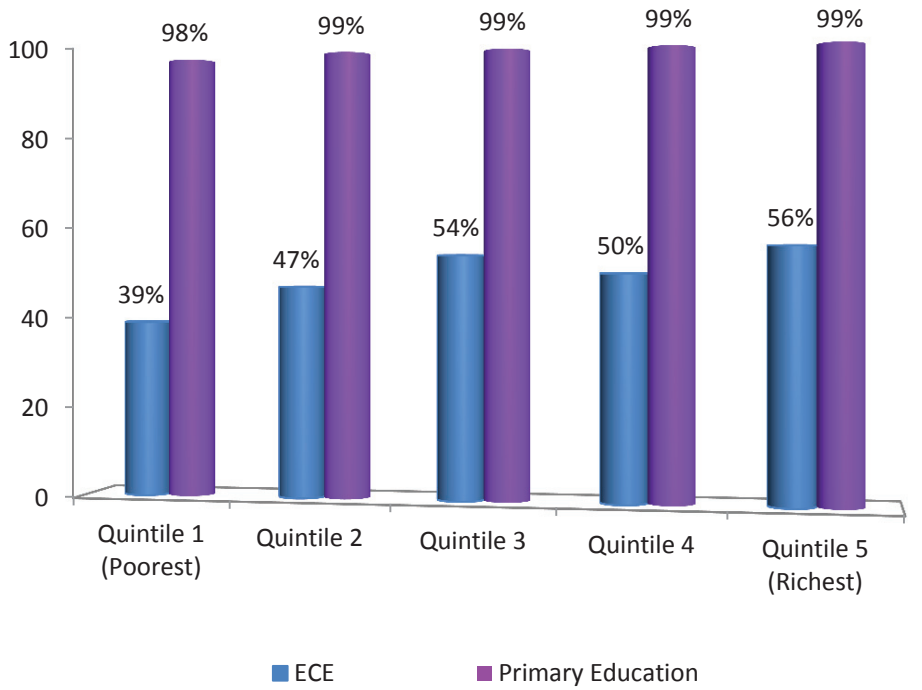
Figure 3: Early Childhood Education Outcomes in International Perspective



Source: Based on World Bank Education Statistics Data, 2012/13 or nearest year available.

Access to ECE services for children aged 3-5 years needs to be considerably expanded in Sri Lanka. In particular, participation in ECE is low compared to most middle and high income countries [Figure 4]. Moreover, there are significant disparities in access to ECE centers across income quintiles: ranging from 39 percent of children in the lowest quintile to 56 percent of children in the wealthiest quintile. The low enrollment in ECE is mainly due to under-investment of public resources, with ECE left largely to private sector financing and provision. While this is a feasible strategy for middle-class and upper-income households, children from the bottom 40 percent of households would need publicly funded ECE services for the country to achieve universal enrollment in ECE. Therefore, Sri Lanka needs to invest public resources to develop ECE and enable children from poorer and more disadvantaged backgrounds to benefit from vitally important ECE services.

Figure 4: Inequality in Access to Early Childhood Education by Economic Group



Source: Laying the Foundation for Early Childhood Education in Sri Lanka: the World Bank 2014.

The quality and management of ECE requires substantial improvement.

There are no clear standards for an ECE curriculum and in practice many centers teach the primary school curriculum to pre-school children. The ECE teacher service requires substantial strengthening. Currently, less than 50 percent of ECE teachers are adequately qualified [World Bank (2014)]. Further, there is no system for regular professional development or in-service training of ECE teachers. There is significant variation in the quality of pre-schools across the country. State and non-state ECE centers lack adequate resources, including teaching-learning materials, equipment and physical facilities. Many centers, especially in poor rural and estate sector areas, do not meet basic safety and hygiene standards. Centers also lack adequate facilities for children with special learning needs. Finally, the country's regulatory framework for ECE needs to be modernized, with sound measures for licensing, monitoring and quality support for ECE centers.

Accelerating Primary and Secondary Education Development

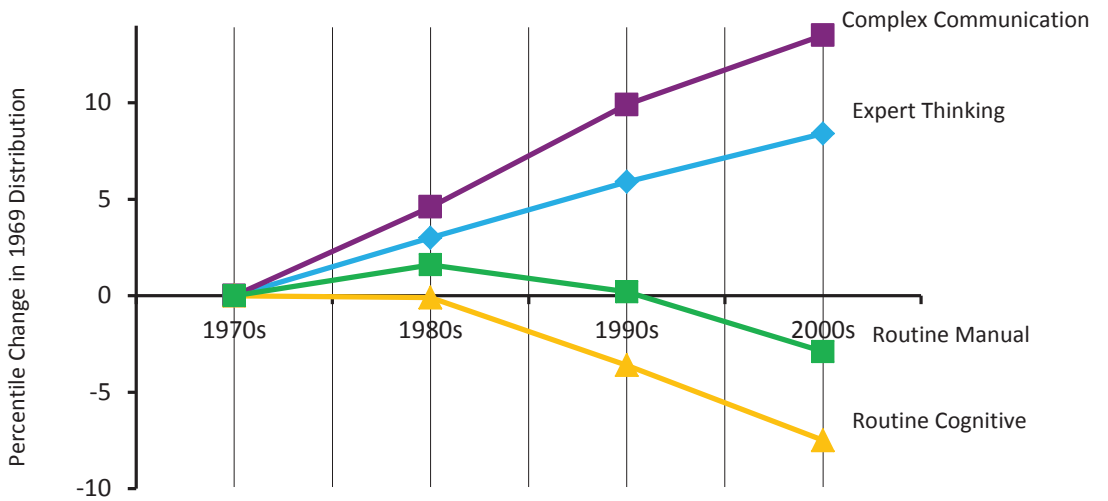
The general education system has served Sri Lanka well in the past, but needs a fresh vision and strategy for the future. On the positive side, the general education system has underpinned the higher education system, the technical education and vocational

training system, the labor market, and the social, cultural and political life of the country. The human capital produced through the general education system enabled Sri Lanka to make the transformation from a low-income country to a middle-income country in the 21'st century. There have also been successful reforms introduced in the past, such as the increase in the compulsory education age range to 14 years, which has resulted in the proportion of students completing grade 9 rising to 90 percent, which compares well with countries around the world. The general education development program of the country should be encouraged by these positive achievements of the past, and rise to address the next set of challenges ambitiously and boldly.

The skills and competencies needed for economic development are undergoing a world-wide transformation [World Bank (2011)].Up to the 1970s routine cognitive tasks, which are mental tasks with well-defined logical rules, and routine manual tasks, were important in economic production processes. However, since the 1970s the relative importance of these skills has been declining in sophisticated economies, especially with increasingly complex automation and technology-intensive machines available to perform many of these tasks. Instead, skills such as expert thinking which requires creative solutions to problems for which there are no simple rule based solutions, and complex communication which involves inter-personal interactions to acquire and explain information, and if necessary use this information persuasively (e.g. a manager motivating her work force) are becomingly increasingly important in advanced and upper-middle income economies. Figure 5 provides an example of the evolution of some of the skills necessary for economic growth in the twenty-first century

The broad set of skills increasingly required by employers are mainly socio-emotional skills, such as problem solving, resilience, achievement motivation, control, team work, initiative, confidence and ethics[Guerra *et al* (2014)].The human neural and biological development processes are such that these skills usually need to be created and developed during the early schooling years of children and among adolescents[Heckman (2008), Guerra *et al* (2014)]. The stages of development of socio-emotional skills are summarized in Table 1. The primary and secondary education system needs to be renewed and transformed for the production and generation of socio-emotional skills. This will require re-orientation of the school education system to explicitly promote socio-emotional skills. A variety of interventions will be needed in this context. The curriculum will have to be carefully aligned with the neural and biological development of children to produce socio-emotional skills. Teacher education and training will be required to enable teachers to develop the socio-emotional skills that can be modeled in the classroom. The schools will need to incorporate socio-emotional skills development into teaching-learning processes. The school network will also have to be organized to provide a favorable climate for socio-emotional skills production, with facilities and scope for active and interactive learning. Greater emphasis will also be needed on extra-curricular and co-curricular activities, such as sports and games, societies and clubs, and recreational activities, which are important for the acquisition of socio-emotional skills.

Figure 5: The Changing Composition of Skills Needed in Economies in the 21'st Century



Source: Sri Lanka Education Sector Report, World Bank (2011)

Table 1: Stages of Development for PRACTICE Skills

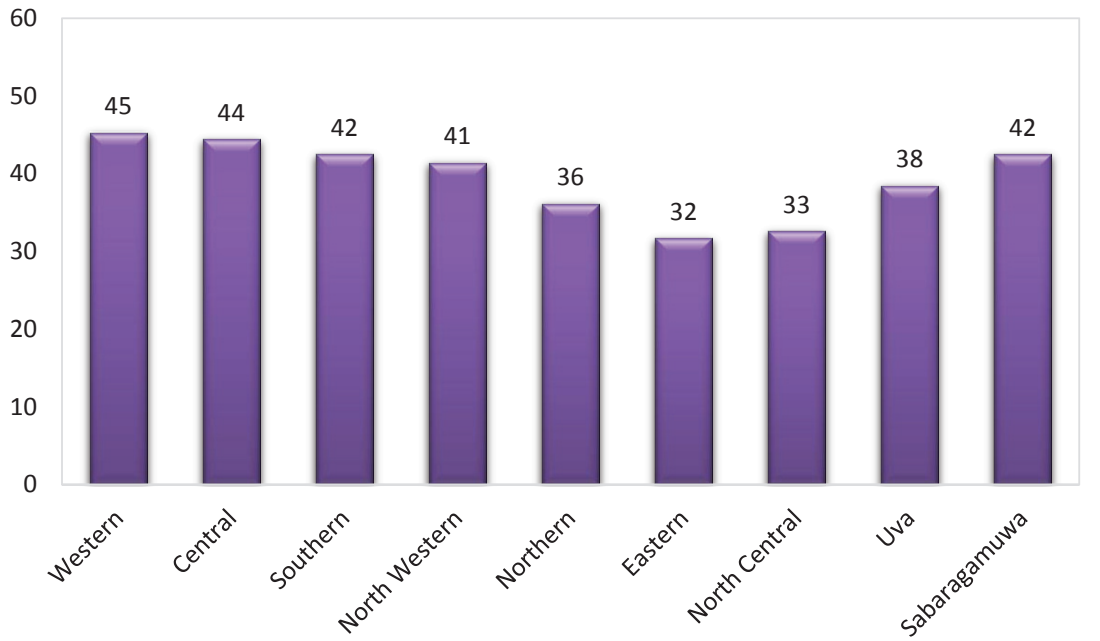
Skills for the labor market	Early childhood	Middle childhood	Adolescence	Emerging adulthood
Problem solving	Foundational	Optimal	Optimal	Reinforce
Resilience	Optimal	Optimal	Reinforce	
Achievement motivation	Optimal	Reinforce		
Control	Optimal	Optimal	Optimal	Reinforce
Teamwork	Optimal	Optimal	Reinforce	
Initiative	Optimal	Optimal	Optimal	Optimal
Confidence	Foundational	Optimal	Optimal	Reinforce
Ethics	Foundational	Optimal	Optimal	

Source: Guerra *et al* (2014).

The rapid and equitable improvement of learning outcomes is of major importance. Employers, especially those involved in international trade and finance, stress the importance of fluency in international languages, particularly English language skills. Scientific and industrial occupations require individuals with good mathematical and scientific knowledge and skills. The ability to use information technology is a basic requirement in the modern world. Learning outcomes in Sri Lanka are inadequate in

comparison to middle-income and high-income countries. In particular, there is wide variation in learning outcomes, with advanced regions of the country such as the Western Province and Southern Province showing considerably higher learning levels than less advanced regions, such as the Eastern, North-Central, Northern and Uva Provinces [Figure 6 - Figure 8].Developing education and improving learning outcomes of children in the lagging provinces and regions will be of great importance for equitable development and the promotion of shared prosperity.

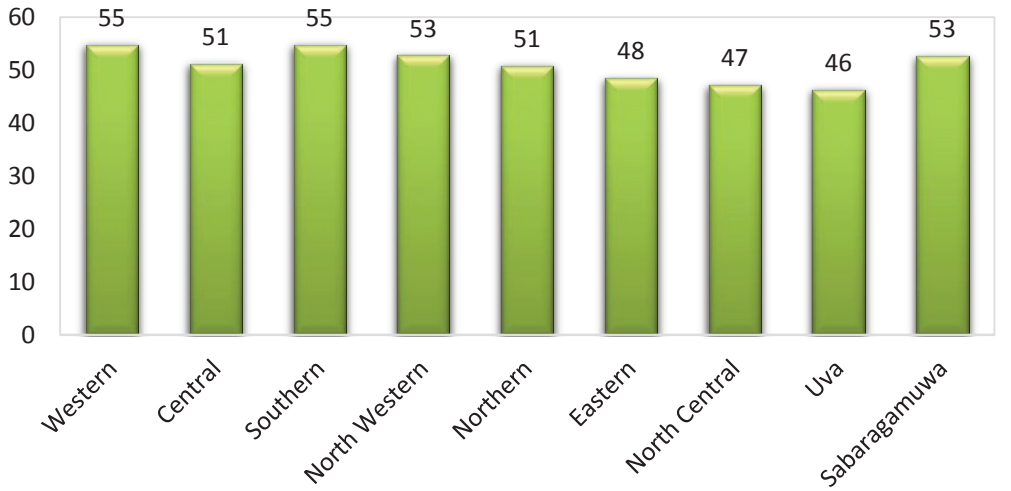
Figure 6: English Language Average Learning Outcomes of Grade 8 Students by Province, 2012(Percent).



Source: National Education Research and Evaluation Center, University of Colombo, 2013.

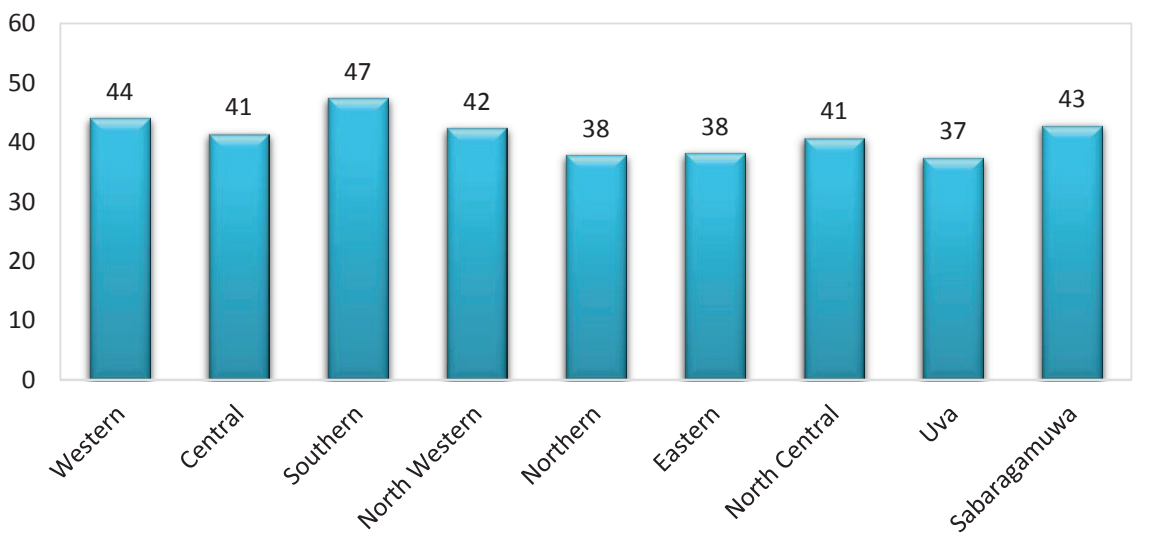
Improving learning outcomes is a complex process. A variety of factors contribute to the promotion of cognitive skills in Sri Lanka, including school-specific factors, teacher-related factors and child-specific factors [Aturupane *et al* (2013a)]. All these factors need to be fully exploited in future school development initiatives. A particularly promising strategy which has worked in the past is school-based management [Aturupane *et al* (2015)]. Given its success school-based management should be further strengthened and developed in the future [Aturupane *et al* [(2013b)]. Especially, Sri Lanka needs to formulate and implement a systematic process to provide school grants for the improvement of cognitive skills and the promotion of socio-emotional skills.

Figure 7: Mathematics Average Learning Outcomes of Grade 8 Students by Province, 2012 (Percent).



Source: National Education Research and Evaluation Center, University of Colombo, 2013.

Figure 8: Science Average Learning Outcomes of Grade 8 Students by Province, 2012, (Percent).



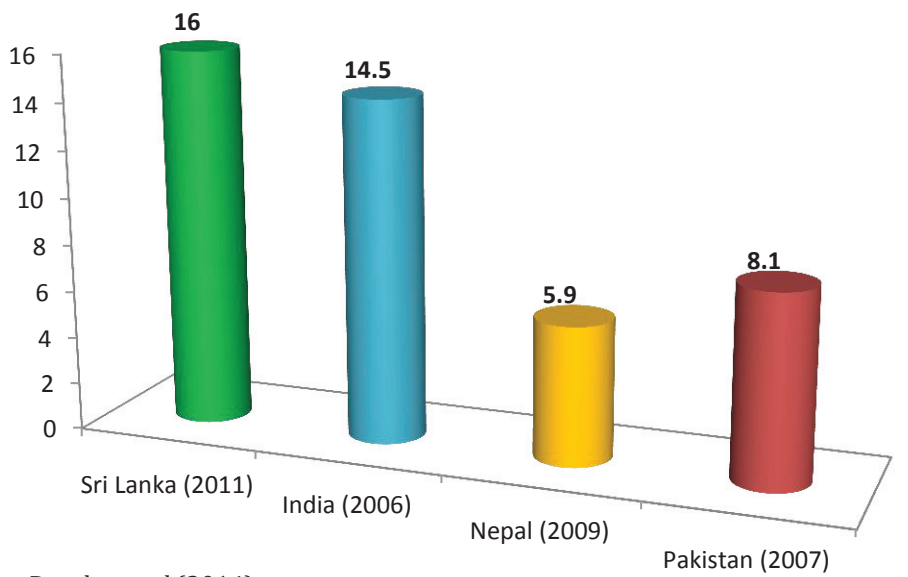
Source: National Education Research and Evaluation Center, University of Colombo, 2013.

The school system also has a central role to play in the future development of Sri Lanka as a multi-ethnic and multi-religious liberal democracy. The new government has clearly stated its vision to make Sri Lanka a model democracy on the world-stage. The social and cultural foundations of an enlightened modern democracy are established at the stage of general education. The school system inspires and shapes a country's values, ethics and social institutions. This includes the attitudes of citizens towards social and cultural pluralism, and ethnic and religious diversity. In addition, the school system has a vital influence on the values, ethics and patterns of behavior that are needed for democratic institutions to flourish.

Broadening and Deepening Vocational and Technical Skills

Sri Lanka needs to rapidly increase the availability of good quality vocational and technical skills in the labor force. The government is aware that the country faces serious constraints in skills development, which jeopardizes its goal of promoting globally competitive industries. Sri Lanka is normally a leader in South Asia in human development indicators. However, this is not the case for vocational and technical skills. More firms in Sri Lanka identify a shortage of vocational and technical skills as a major constraint than firms in India, Pakistan and Nepal [Figure 9]. This scarcity is exacerbated by the fact that many well-qualified skilled individuals migrate overseas for employment, although migration does provide a substantial source of remittance earnings.

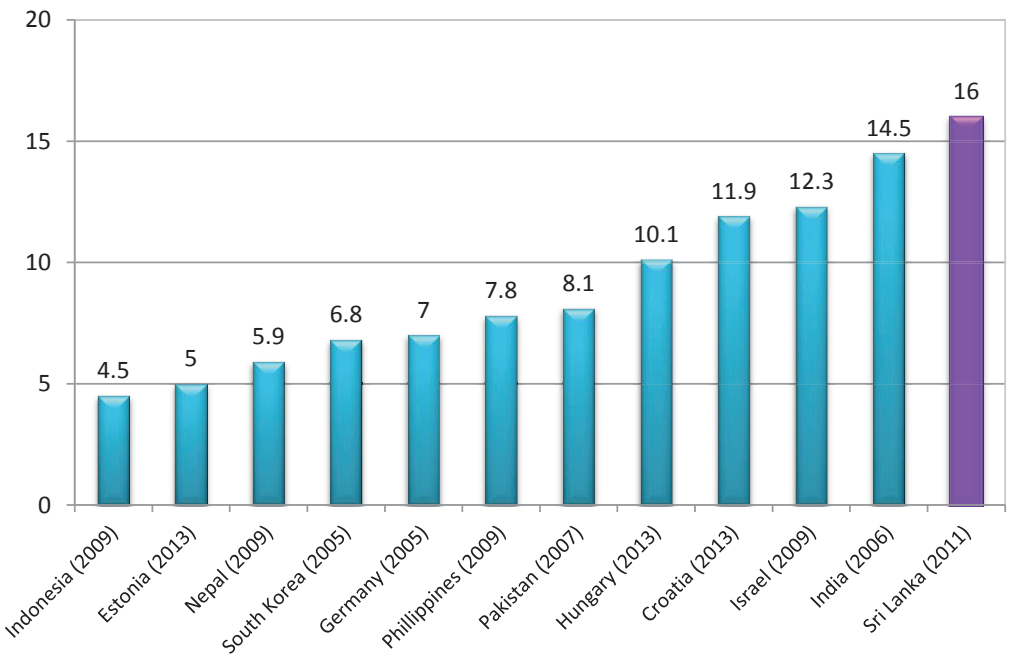
Figure 9: Percentage of Firms Identifying an Inadequately Skilled Workforce as a Major Constraint



Source: Dundar *et al* (2014).

The technical and vocational education and training system (TVET) urgently needs to be modernized. In particular, industry participation in the drafting of competency standards, curricula and teacher training in public sector TVET institutions is of vital importance. Further, the participation of employers from private and public sector firms and industries in the management and stewardship of public training institutions would greatly contribute to the development of a high performing TVET system. Countries such as Malaysia and South Korea, which are noted for the quality of their TVET sectors, exhibit a close relationship between industries and firms and the providers of TVET services.

Figure 10: Skilled Workforce as a Major Constraint by Country



Source: Sri Lanka Skills Development Sector Report: The World Bank 2014b.

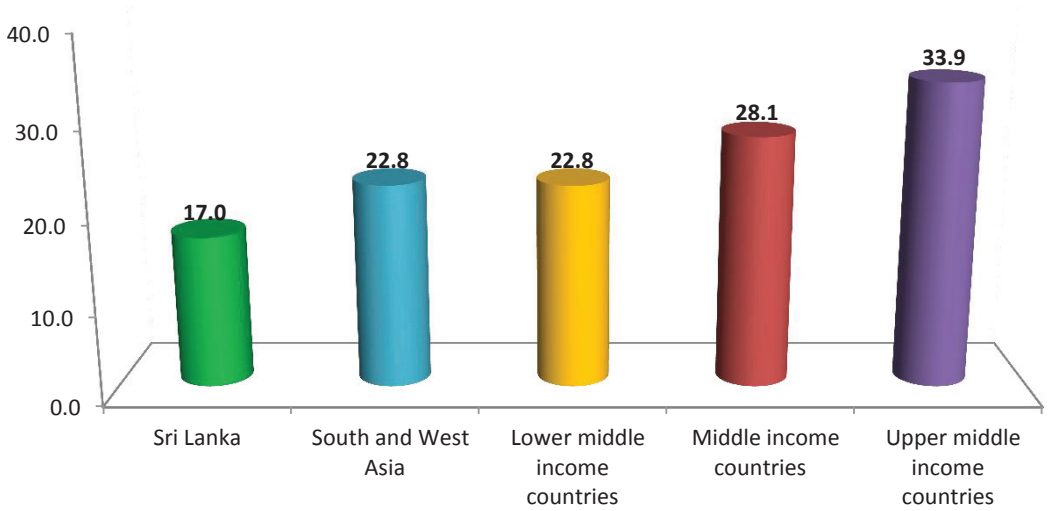
Increasing participation in good quality TVET is important to improve job prospects for youth and promote shared prosperity. Youth in poorer rural and estate regions, and particularly girls, participate less in TVET than youth from urban areas and boys [Dundar *et al* (2014)]. This is partly a problem of access, with fewer opportunities for TVET in rural and estate areas. It is also partly a problem of low social demand, with TVET seen as an inferior option to more academic types of education. The government needs to address this problem with a combination of strategies, including promoting private training institutions and Non-Governmental Institutions (NGOs) to broaden the

provision of TVET services in rural and estate areas through the provision of suitable incentives, and by widening the network of public training institutions in poor regions where the private sector is unable to deliver services.

Transforming Higher Education

Sri Lanka's higher education attainment is exceptionally low for a middle-income country. Participation in higher education, with an enrollment rate of about 17percent,is well below the average enrollment rates for lower-middle income countries at around 23 percent and middle income countries at approximately 28 percent [see Figure11].Higher education enrollment is also below the average for South and West Asia. In addition, it is considerably less than exemplar countries such as South Korea, Malaysia and Thailand [Figure 12].

Figure 12: Higher Education Enrollment in Sri Lanka in Comparison to Country Groups

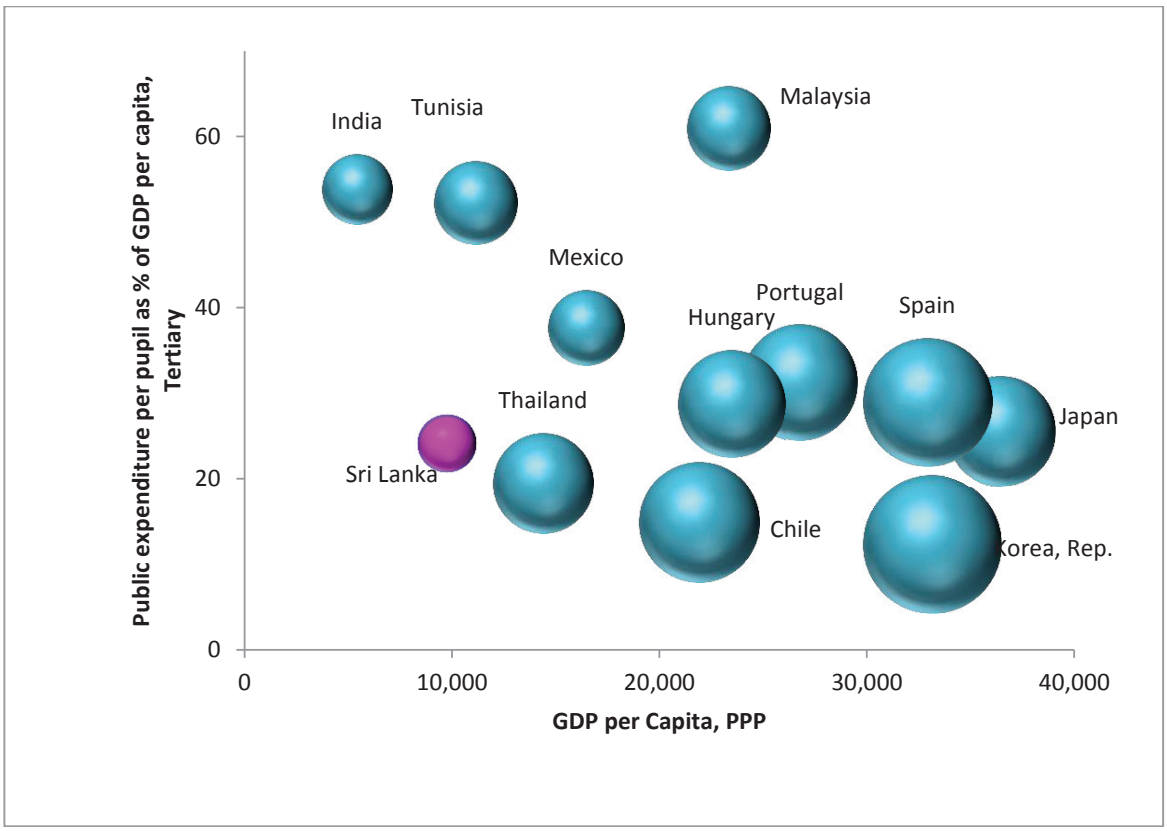


Source: UNESCO Education Statistics

Sri Lanka urgently needs to expand enrolment in higher education in degree programs of strategic economic importance. The new government is fully aware that the current capacity of the public university system is insufficient, with only a small proportion of those qualifying for university education gaining admission to public universities. The country needs to increase in-take capacity in public universities, especially for degree programs in the sciences, ICT and other technological subjects, and engineering. In addition, the country needs to provide a more favorable environment for private sector

participation in higher education. At present, the governance framework for private sector investment and delivery of higher education services is unclear, with ambiguous and inconsistent regulations. A clear and enabling framework for licensing, quality assurance and accreditation of private higher education institutions is of vital importance. This framework should ideally be the same for both private and public higher education institutions, so that there is a level playing field in terms of expected standards between the two sets of institutions.

Figure 11: Tertiary Education Outcomes in International Perspective (2012/13)



Source: Based on World Bank Education Statistics Data, 2012/13 or nearest year available.
Note: Bubble size corresponds to gross enrollment rates (GER) in tertiary education.

The quality and relevance of the public universities system needs substantial strengthening. There are several institutes, faculties and degree programs of high quality in the public universities. However, high initial unemployment and a strong

preference for government jobs among public sector university graduates, especially those from external degree programs and from arts, commerce and humanities disciplines, has been a long-standing problem. This issue needs to be addressed through a multi-pronged approach requiring a combination of new and more labor market relevant degree programs; modernization and development of the curricula of existing degree programs; new and innovative teaching-learning-assessment methods such as student centered learning and outcome based education; and reforms to language policies for degree programs. In addition, the socio-emotional skills of university students need to be developed to increase demand for private sector employment.

The higher education system requires transformation from a nationally focused to a globally oriented system. The new government has stressed the importance of industrialization for economic development. Linkages between industries and universities are at a nascent stage in Sri Lanka, and below even neighboring India. There needs to be an accelerated drive to create and foster strong science, technology and innovation linkages between higher education institutions, research centers and industry. Sri Lanka's economic advancement as a middle-income country will depend on the acquisition and use of technologies at increasing levels of complexity, quality and productivity. Further on, as Sri Lanka seeks to become a high income country, the inter-action between industries and services and higher education institutions will be of vital importance to generate a continuous stream of improvements and innovations, as seen in countries such as Japan and South Korea.

Finally, higher education institutions are of vital importance for the cultural, political and social life of a country. Universities shape the values and norms of a society over the long-term, and can create the space for enlightened citizenship and democracy. This aspect of higher education is particularly important for a country, such as Sri Lanka, which has a variety of ethnic and religious groups, and is emerging from a period of increasingly authoritarian rule. The higher education sector should be at the forefront in creating and promoting the enlightened citizenry needed for a democratic country. The higher education institutions, through their teaching, research and community services, need to enhance and strengthen the values and norms, such as pluralism, social tolerance, respect for diversity, and reasoned debate, that are at the heart of a multi-ethnic, multi-religious political democracy.

References

Aturupane, Harsha, Glewwe, Paul and Wisniewski, Suzanne (2013a). "*The impact of school quality, socioeconomic factors, and child health on students' academic performance: evidence from Sri Lanka primary schools*". Education Economics, Vol. 21, No. 1, February 2013, 2-37.

Aturupane, Harsha, Kellaghan, Thomas and Shojo, Mari (2013b). School-Based Education Improvement Initiatives: The Experience and Options for Sri Lanka. South Asia Human Development Sector Working Paper No: 50.

Aturupane, Harsha, Glewwe, Paul, Renato Ravina, Sonnadara, Upul and Wisniewski , Suzanne (2015). "*An Assessment of the Impacts of Sri Lanka's Programme for School Improvement and School Report Card Programme on students' Academic Progress".* The Journal of Development Studies, 50:12, 1647-1669.

Dundar, Halil, Benoit Millot, Yevgeniya Savchenko, Harsha Aturupane and Tilakaratne Piyasiri(2014). *Building the Skills for Economic Growth and Competitiveness in Sri Lanka.*The World Bank, Washington D.C., U.S.A and Colombo, Sri Lanka.

Guerra, Nancy, Kathryn Modecki and Wendy Cunningham (2014). Developing Social-Emotional Skills for the Labor Market: The Practice Model. Policy Research Working Paper 7123. The World Bank, Washington D.C., USA.

Heckman, James J. (2008). "*Schools, Skills and Synapses*". Economic Inquiry, 46(3):289-324.

Himaz, Rozana and Aturupane, Harsha (2011). Education and Household Welfare in Sri Lanka from 1985 to 2007. Economics Series Working Paper no: 527. University of Oxford, Department of Economics.

Little, Angela. (2010). The Politics, Policies and Progress of Basic Education in Sri Lanka. Create Pathways to Access Research Monograph 38, London, U.K.

UNECSO (2007). Strong Foundations: Early Childhood Care and Education. EFA Global Monitoring report, UNESCO, Paris, France.

University of Colombo, National Education Research and Evaluation Center. (2013). National Assessments of Learning Outcomes in Grade 8. Colombo, Sri Lanka.

Wehella, Madura and Balasuriya, Jayantha (2014). "*Free Education Policy and Challenges: Sri Lanka*", in Commonwealth Education Partnerships,Commonwealth Secretariat, UK.

World Bank(2011). Transforming School Education in Sri Lanka: from Cut Stones to Polished Jewels. The World Bank, Washington D.C., U.S.A and Colombo, Sri Lanka.

World Bank (2014). Laying the Foundations for Early Childhood Education in Sri Lanka. The World Bank, Washington D.C., U.S.A and Colombo, Sri Lanka.

A CRITICAL STUDY ON THE EFFECT OF INSTRUCTIONAL LEADERSHIP OF PRINCIPALS ON IMPLEMENTATION OF 5E TEACHING MODEL IN SECONDARY SCHOOLS

M.S. Pushpakumara
Manager, Teacher Center
Madampe

Abstract

This research deals with the instructional leadership of principals in secondary schools in the Puttalam district and its effect on the implementation of the 5E teaching model in secondary classrooms. The focus of the research is on the instructional leadership function of the principals in secondary schools. The general view of the role of principal is often administrative. In the society what it is often heard is the administrative activities of the principal. But as an educational leader the widely expected role of the principal should be an instructional role. As guidance to this research, the related literature regarding the function of the instructional leadership role of the principal was reviewed. Following this path, the principal's guidance towards the staff development, support given to the teaching learning process of the school, supervision procedure, provision of teaching learning materials, provision of resources were subjected to scrutiny. The total function of the principal role was viewed towards the implementation of the 5E teaching model in secondary classes. This research was conducted under the descriptive survey method in the qualitative research paradigm. The research population covered all secondary schools which are located in 05 education zones in the Puttalam district. Using the proportionately stratified sampling technique, 40 secondary schools were selected. The participants in the sample were selected following the purposive, proportionately stratified, random and convenient sampling techniques. The research sample included 40 principals, 10 deputy principals, 80 teachers and 25 students. Questionnaires and interviews were used as data collecting instruments. Both quantitative and qualitative data was collected and analyzed using the SPSS data analysis system in order to achieve the objectives of the research. The analyzed data is presented through various tabular and graphical presentations. This research study has revealed the positive facts about the instructional leadership role of the principals in the Puttalam district. The positive ideas expressed by the teachers about the functions of an instructional leadership role of a principal, has supported this view. In the context of an instructional role of the principal, positive function of the 5E method in secondary schools was not surfaced in the study.

***Key Words**: Instructional leadership, 5E teaching model, Secondary schools*

1.0 Rationale and background of the study

The school is one of the prominent institutions in the field of education in Sri Lanka. All curricula designed by the policy planners are implemented by the school. Hence the principal of the school receives a big responsibility in giving successful leadership for all activities carried out in school. Through this leadership the principal has to guide the school towards its objectives. The Handbook for school improvement partners (2008), issued by the Ministry of Education in Sri Lanka states that the role of the principal is very crucial to the success of the school. The same book further states that the principal is the key factor in the survival of any school effectiveness.

Principal's role today is considerably different from that of a principal of 50 years ago. With the consequences of globalization, it is seen a changing nature in the field of school education. The task of the school has become to prepare its children to face the world of work. For this purpose both the school curricula and the role of the principal have to be changed accordingly. The current literature regarding the role of principal, stresses that the principal's role should be instructional. But visibly, the present day role of principal in Sri Lankan schools seems to be administrative and managerial.

Hollinger (1985), points out that the instructional leadership needs to be in the domains such as defining the values and purposes of the school, managing the programme of teaching and curriculum and establishing the school as a professional learning community.

In this manner it is indicated that the principal's role should be instructional in order to maintain an effective learning-teaching process in school. In this study, the effect of instructional leadership of principal on the implementation of 5E method is viewed. This study also views to what extent the role of principal in secondary schools in Puttalam district is instructional.

However much the policy planners plan and revise the curricula and teaching methodologies, the curricula have to be worked out in the classroom. Therefore the role of the principal is very vital in this regard. Hence for successful implementation of the 5E teaching model, the principal should be an instructional leader. According to the activity plans under the 5E teaching model there should be effective learning environments in the school. Meetiyagoda(2004) in 'Effective Schools' mentions the followings as basic features of an effective school.

- The curriculum leadership of the principal
- Teaching process directed towards the students' progress.
- Having an excellent school environment
- Active teaching environment

For successful implementation of the 5E teaching model, the school should be consisted of libraries, computer facilities, audio and video aids, text books, teachers and provision of other quality inputs. The provision of these facilities depends on the instructional leadership of the principal.

The 5E teaching model was introduced to the schools in 2007 and various bodies have expressed their dissatisfaction towards the implementation of this teaching method. Criticisms on this method can be found in newspapers. Specially, these articles have pointed out the mismatch of the teaching model with the evaluation procedure of the learner achievement. The informal discussions with teachers made by the researcher have revealed that there are draw-backs in the role of principals in supporting successful implementation of the 5E model.

The final report for the new education act for general education 2009, states that there is no educational leadership in schools today. The report further states that for the success of education, the managers in all levels of the educational hierarchy should be conversant with change management skills. But the present instructional leadership of the principal has been affected with the less autonomy given to the principals. The same document further suggests that the instructional leaders should guide the teachers to perform their roles better.

The above document on education proposals states that many schools lack the required learning environments for successful implementation of the suggested child centered methodologies. As 5E is totally a child centered learning model, this situation affects its practical implementation. The same document further reveals that many schools are consisted of traditional furniture and classroom settings which hinder the students' joyful learning. Therefore how the instructional leadership of the principal affects the implementation of 5E model is well worth to be examined.

The researcher as a teacher educator in a' Teacher Centre', has his personal experiences about various complaints made by teachers on draw –backs of the instructional leadership of the principals in carrying out the 5E teaching model. The casual visits to the schools made by the researcher on various teacher centre activities have shown him that most of the classroom teaching is lecture method.

The above motives persuaded the researcher to conduct a formal investigation on the effect of instructional leadership of principals on successful implementation of the 5E teaching model. The relevant literature referred by the researcher revealed that the principal is the key person in the school to stimulate and organize the learning teaching process in the school.

Hence, the researcher decided to carry out a survey to determine whether the role of the principal affects the implementation of 5E teaching model and if so in what manner? In this research, the researcher intends to make a special focus on the effect of instructional role of the principal on this 5E teaching model. Through this research, it is expected to suggest ways and means to overcome the negative effects of the instructional role of the principals of secondary schools and to enhance it in order to create suitable learning environments to carry out the 5E teaching model.

2.0 Review of related literature

2.1 **The instructional leadership**

The literature regarding the role of principal elaborates it in a multi- faceted way. Many educationists view this role as a leader. In this perspective the leadership role of the principal is descriptively analyzed.

The studies of the role of the principal have reviewed the principal as an administrator, manager, curriculum leader and an instructional leader.

Brewer (2001:81) outlines these roles as "one that requires focusing on instruction, building a community of learners, sharing decision making, sustaining the basics, leveraging time, supporting ongoing professional development for all staff members, redirecting resources to support a multi- faceted school plan and creating a climate of integrity, inquiry and continuous improvement".

This definition clarifies that the task of an instructional leader should be designing, directing and supervising programmes for the improvement of both the students and the staff of his school. Hence the instructional leader envisaged in this report is the one who operates not only for the improvement of students but also for the improvement of the staff members.

Rossow (1999) points out that the out of leadership dimensions; instructional leadership was the most significant one. The dimension has altered the role of the principal's responsibilities

from operational management to instructional leadership. He further clarifies that the instructional leaders are role models to everybody in the school. In doing so, the principal should have a better understanding on the policy and the curriculum management of bilingual education programme and culturally sensitive to his community and able to demonstrate total commitment to his teachers and the staff. This commitment will empower the teachers and the staff to be agents in change in their own way.

The above clarification shows the practical focus of a principal. In the school system, as a top line manager, the principal compulsorily becomes an instructional leader in school operations. Instructional leadership refers to the principal's role in providing direction, resources and support to teachers and students in the school. He should be able to respond successfully to change as well as to initiate change.

Elmore (2002) defines instructional leadership as organizational glue that keeps things on track.

Murphy (2002) proposes a role of instructional leadership which entails developing a learning community in which greater attention is needed to promote an atmosphere of inquiry with a focus on collaboration and shared decision making. In this role, leaders need to develop the capacity for reflection and promote self-inquiry among the entire school community.

According to this clarification, a principal is an educational leader who promotes the success of all students by advocating, nurturing and sustaining a school culture and instructional programme conducive to students' learning, professional growth of staff, resource allocation and community relations.

Jo Blase et al. (2000) expresses his idea that the principals have a belief that instructional leadership is a blend of supervision, staff development and curriculum development where as a good instructional leadership behaviors should go beyond those levels.

Sheppard (1996) as cited by Jo Blase synthesizes the research on instructional leadership behaviors ,especially those linked to student achievement outcomes and in contrast to most research, used a broad perspective of instructional leadership defined as interaction between leaders and followers wherein ' the followers ' beliefs perceptions are viewed as important (Hallinga and Murphy, 1987).

Sheppard's findings contradict those of others who found that routine instructional leadership behaviors often negatively affect teachers, increase teacher docility and reduce teacher innovation and creativity. Sheppard confirmed a positive and strong relationship between effective instructional leadership behaviors exhibited by principals and teacher commitment, professional involvement and innovativeness.

According to Sheppard (1996), the principal behaviors connected to teachers' professional growth and performance is as followers.

- Framing school goals.
- Communicating school goals
- Supervising and evaluating instructions
- Coding the curriculum
- Monitoring student progress
- Protecting instructional time

- Monitoring high visibility
- Providing incentives for teachers.
- Promoting professional development
- Providing incentives for learning.

The above explanations regarding the instructional leadership role of principals confirms that the principal should develop the instructional leadership role in them in order to cope up with the complex tasks of a secondary school in Sri Lanka. However, the present appearance of the role of a principal of a secondary school does not seem to be hundred percent instructional.

This idea is further substantiated by Brookover, et al. (1982).

The role of 'instructional leader' by school leaders is a relatively new concept that emerged in the early 1980's which called for a shift of emphasis from principals being managers or administrators to instructional or academic leaders .This shift was influenced largely by research which found that effective schools usually had principals who stressed the importance of instructional leadership (Brookover, et al 1982, p. 77).

However, in the Sri Lankan context the effect of instructional leadership in secondary schools is worth to be examined. This need is further suggested by the following idea.

While most would agree that the instructional leadership is critical in the realization of effective schools, it is seldom practiced. For example, among the many tasks performed by principals, only one tenth of time is devoted towards providing instructional leadership (Stronge, 1988).

When one considers the importance of the role of a principal in a secondary school where that anyone can understand the complexity of its functions, it is very evident for the need of an instructional role of a principal.

The above references on instructional leadership of principal provide a comparative background to that of the Sri Lankan secondary schools. Hence this research focuses to examine to what extent the role of principal in secondary schools in Sri Lanka is instructional.

2.2 The 5E teaching model

The 5E teaching model is an internationally used teaching method. The literature shows that this method is widely used in teaching subjects such as science and history where the skill of exploration has to be widely used. In 2007, this method was introduced to Sri Lankan education system and all the subjects from grades 6 to 11 were expected to be taught using the 5E model. The syllabuses relating to those subjects were revised into competency based and the pupil's text books and the Teacher Instructional Manuals (TIM) were reproduced. The teacher training related to the 5E teaching model was also conducted. All the activities relating to this new teaching model were conducted by the National Institute of Education (NIE).

The 5E is a teaching model which evolved through the philosophy of Constructivism. The literature shows that it is a child centered teaching model which directs children towards self-learning. Ginige (2008) states that 5E is a very effective model to carry out a competency based curriculum. The writer further states that 5E creates an activity based learning environment in the teaching learning process. Ginige (2008) explains that this activity based approach helps the learner to build up knowledge and meaning themselves instead of transmitting knowledge

through teacher centered teaching methods. The writer stresses that the 5E method is based on exploratory learning which helps the learner to build up knowledge and understanding individually.

The following table shows the key stages of the 5E model and the consistent features of each stage

Table 2.1 Key components of the 5E model

Stage of the Instructional Model	**What the Student Does**
	Consistent with the Model

Engage	• Asks questions such as
	  ○ "Why did this happen?"
	  ○ "What do I already know about this?"
	  ○ "What can I found about this?"
	• Shows interest in the topic

Explore	• Thinks freely, within the limits of the activity • Tests predictions and hypotheses • Forms new predictions and hypotheses • Tries alternatives and discusses them with others • Records observations and ideas • Asks related questions • Suspends judgment
Explain	• Explains possible solutions or answers to others • Listens critically to other's explanations • Listens to and tries to comprehend explanations that the teacher offers • Refers to previous activities • Uses recorded observations in explanations • Assesses own understanding
Elaborate	• Applies new labels, definitions, explanations, and skills in new but similar situations • Uses previous information to ask questions, propose solutions, make decisions, and design experiments • Draws reasonable conclusions from evidence • Records observations and explanations • Checks for understanding among peers
Evaluate	• Answers open- ended questions by using observations, evidence, and previously accepted explanations • Demonstrates an understanding or knowledge of the concept or skill • Evaluates his or her own progress and knowledge • Asks related questions that would encourage future investigations

Adapted from: The BSCS 5E Instructional Model: Origins, Effectiveness, and Applications, July 2006, Bybee, et al., pp. 33-34, http://www.unc.edu/destiny/5Es.htm

The review of the features relating to the five steps of the 5E teaching model shows the learning which takes place in students through this model is very meaningful. This model encourages the interaction among the teacher and fellow students. There is an opportunity in this model for sharing the knowledge achieved.

Ginige (2008) elaborates that there should be a creative learning environment for successful implementation of the 5E teaching model. The writer mentions that the learning challenges, learning materials and structures are prominent among them. The writer further elaborates that the 5E method is consisted of the five steps explained in the above table. According to Ginige (2008) for successful implementation of 5E model, the teacher's role too has to be changed. The writer has summarized the expected teacher role in the following diagram.

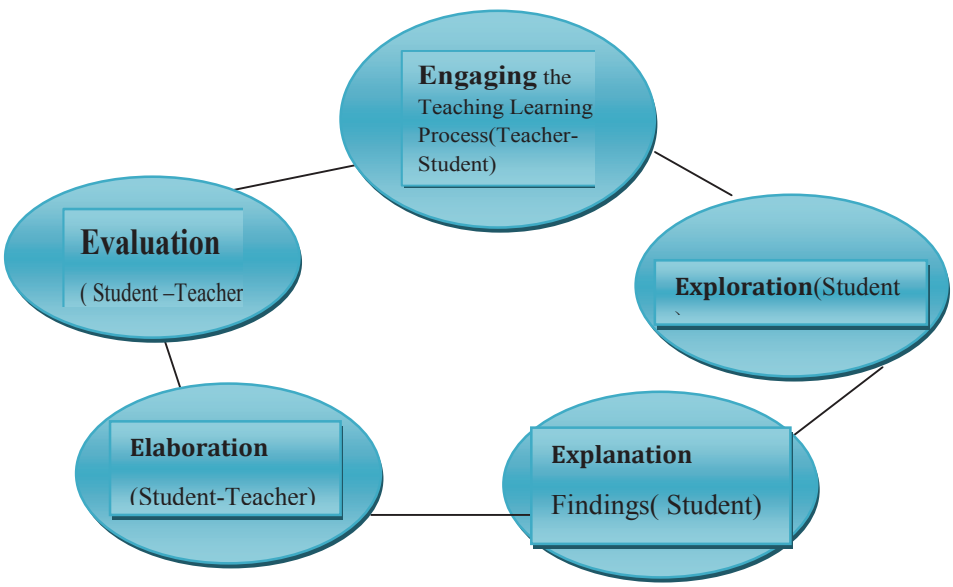


Figure 2.1: 5E Model to plan the teaching learning process

Source: Ginige (2008) *Nipunatha Padaka Vishayamalawa Saha Kriyakarakam Selasum- p.6*

The diagram shows that the teacher has to play different roles during the teaching- learning process. In the Engagement stage the teacher is expected to engage student in the learning situation while examining the student's prevailing knowledge of the topic. In the stage of exploration, organizing and understanding the nature of the exploration is the teacher's task. While the students engage in exploration the teacher should be among the students assessing their abilities and inabilities and the teacher should provide the feed-back and feed –forward. The teacher should motivate and guide the students to achieve the expected competency level or the competency.

Ginige (2008) further states that in order to complete an exploration, the quality inputs are necessary. Generally in the group exploration, exploring different aspects of the same problem is taken place in an environment with high quality inputs. The students engaged in exploration are motivated by the included challenges in the exploration and react to find solutions to problems. This paves the way to the children to thinking, researching, information, building concept maps, building models as well as making collective decisions and problem solving. These abilities help the children to build up thinking skills, social skills and personal skills and create the foundation for a successful life.

The above references regarding the 5E teaching model elaborates the expected readiness of schools to implement this new methodology. Therefore these reviews will support the researcher to scrutinize the present nature of the secondary schools in Puttalam district.

Table 2 .2- Effectiveness of the Learning cycle and BSCS 5E lnstructional model

Goal	Support Reported in America's Lab Report (NRC, 2006)	Learning Cycle (SCIS)	Learning Cycle (Other)	BSCS 5E Instructional Model*
Mastery of Subject Matter	Is no better or worse than other modes of instruction	Has inadequate evidence	Has strong evidence of increased mastery compared with other modes of instruction	Shows some evidence of increased mastery compared with other modes of instruction
Scientific Reasoning	Aids the development of some aspects	Has strong evidence of the development of more sophisticated aspects	Has adequate evidence of the development of more sophisticated aspects	Shows some evidence of the development of more sophisticated aspects
Understanding of the Nature of Science	Shows little improvement	Has inadequate evidence	Has inadequate evidence	Has inadequate evidence
Interest in Science	Shows some evidence of increased interest	Has greater evidence of increased interest	Has greater evidence of increased interest	Has greater evidence of increased interest
Understanding of the Complexity and Ambiguity of Empirical work	Has inadequate evidence	Has inadequate evidence	Has inadequate evidence	Has inadequate evidence
Development of Practical Skills	Has inadequate evidence	Has inadequate evidence	Has inadequate evidence	Has inadequate evidence

(*Source* :*http://www.unc.edu/destiny/5Es.htm*)

3.0 Methodology

This research was conducted under the descriptive survey method. As this research intends to view the empirical states of the Instructional leadership of principal and the 5E teaching model the researcher feels to conduct the research in qualitative method. Kerlinger (1981) defines the survey research studies as large and small populations to discover the relative incidents, distribution and inter-relations of Sociological and Psychological variables. Pelvic (1987) too clarifies that the surveys can be used to do everything from monitoring public opinion to assess employee attitudes.

Research objectives

I. To examine how do the principals in secondary schools practice the instructional leadership role to conduct the 5E teaching model.
II. To find out to what extent are the secondary schools ready to implement the 5E teaching model?
III. To analyze the relationship between the instructional leadership of principal and implementation of the 5E teaching model.
IV. To find out problems and obstacles to implement the 5E teaching model in secondary schools.
V. To suggest new policy recommendations for establishing new mechanisms to implement the 5E teaching model.

Based on the hypothesis that the instructional leadership of principals in secondary schools affects on the teaching methodologies in the classroom, it was decided to carry out a survey to test the veracity of the hypothesis and also to find out how the instructional leadership role of principals affect the 5E teaching model in teaching from grades 6- 11 classes in secondary schools.

As the research was delimited to the secondary schools in the district of Puttalam, in the attempt of obtaining a sample representative of the whole district, attention had to be paid to the two education zones in the district namely Chilaw and Puttalam. Each education zone is consisted of 04 education divisions. Using the purposive sampling technique, two education divisions were selected from each zone.

In selecting the two education divisions from each education zone, priority was given to the divisions which had a greater number of secondary schools. Best and Khan (2001) prescribes using purposive sampling in constrained situations of this nature. In this manner, the Chilaw education division and the Nattandiya education division were selected from the Chilaw education zone. The Puttalam and Anamaduwa education divisions were selected from the Puttalam education zone.

The next step was selecting 10 secondary schools from each selected education division. For this purpose, the researcher had to obtain a list of all secondary schools of all 04 selected education divisions. The list of secondary schools included 1AB, 1C, and Type 2 schools. After obtaining separate lists of secondary schools of each division, stratified sampling technique was used to select 10 schools from each selected education division. All these selected schools were consisted of the classes from grades 6 – 11 in which the 5E teaching model was used to teach the subjects in them.

Table 3.1: Selection of secondary schools

School Type	Chilaw Education Zone		Puttalam Education Zone	
	NattandiyaEdu. Division	ChilawEdu. Division	Puttalam Edu.Division	Anamaduwa Edu. Division
1 AB	01	02	01	01
1C	02	01	03	02
Type 2	07	07	06	07
Total	10	10	10	10

The four selected education divisions in this research were Puttalam and Anamaduwa from the Puttalam education zone and Chilaw and Nattandiya from the Chilaw education zone. The Puttalam education division includes 41 secondary schools while the Anamaduwa education division has 34 secondary schools. The Chilaw education division is consisted of 39 secondary schools while the Nattandiya education division has 45 secondary schools. Through stratified sampling technique, 10 secondary schools from each division were selected for the sample. The selected sample included 1AB, 1C and Type 2 schools.

The respondents in the research sample were selected from the 40 schools selected from the district. They included principals, deputy principals, teachers and students. In order to maintain a high validity in the research, suitable sampling techniques were used to select the respondents.

Table 3.2 Method of sampling

Sample	Number	Sampling Technique
Schools	40	Stratified Random
Principals	40	Stratified Random
Deputy Principals	10	Convenience Sampling
Teachers	80	Purposive Sampling
Students	25	Purposive Sampling

The data needed for this study was collected from all the principals of selected secondary schools and the teachers who teach compulsory subjects from grades 6 to 11 in secondary schools. Questionnaires were administered to the both categories. The deputy principals and the students were interviewed. Semi structured interviews were used with them.

The quantitative data collected through the questionnaires were manually entered into the SPSS statistical software and then analyzed quantitatively. Descriptive statistics were used through bar-graphs, histograms, line graphs to show various factors in relation to the research objectives. The qualitative data was then analyzed using box-plots, space-graphs and other tabular forms with the help of the same statistical software.

The 10 deputy principals and the 25 students selected for the sample were interviewed. The data collected through the interviews were tabulated and the findings were helpful in triangulating the data collected through the questionnaires.

4.0 Results and discussion

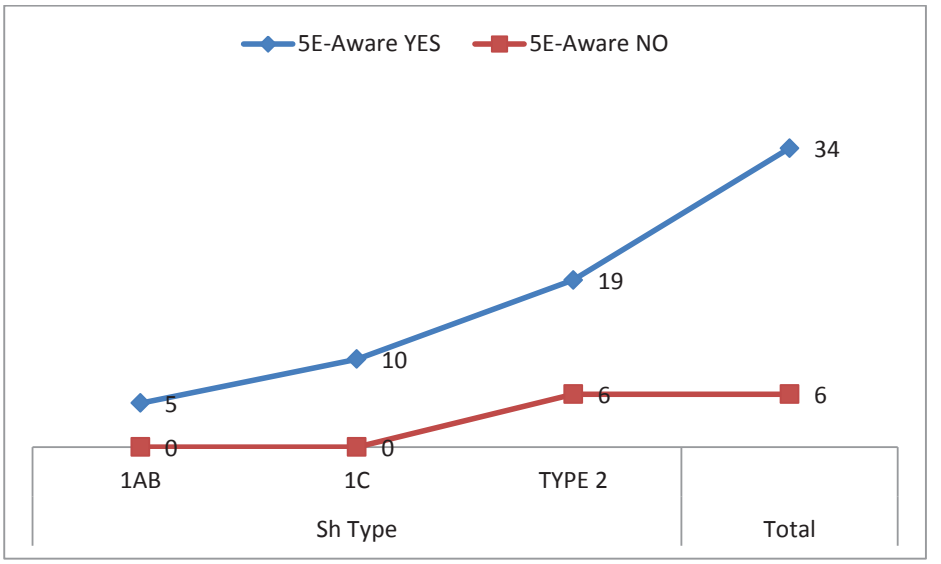


Figure 4.1: Principals' awareness of 5E Model

The graph 4.1 clearly shows the level of principals' awareness of the 5E teaching model. The graph depicts a high standard of principals' knowledge of the 5E model. It is clear that only 15% of the principals are not aware of this teaching model. This 15% are from the Type 2 schools. However, 85% of the principals of secondary schools say that they are aware of the 5E teaching model. The graph shows that all principals in 1AB and 1C schools are aware of the 5E teaching model. This can be considered as a positive trend in implementation of the 5E model.

Table 4.1: Use of 5E model in classroom teaching

School Type	Use of 5E				Total
	Agree	No idea	Disagree	Strongly Disagree	
1AB	2	2	1	0	5
1C	4	5	0	1	10
TYPE2	7	11	6	1	25
Total	13	18	7	2	40

The table 4.1 shows the principals 'ideas on the use of 5E in secondary classrooms. Of the 40 principals only 13(27.5%) agree that the teachers use 5E model in their teaching. Eighteen (47.5%) are of the view that they have no idea whether their teachers use 5E in their teaching. Twenty five percent of the principals admit that the 5E is not used in their schools. One highlighting feature in this regard is that out of the 25 principals in Type 2 schools 18 (72%) say that the5E is not used in their schools. Only 7 (28%) agree that the 5E is used in their schools.

This fact is further substantiated by the statistics given in the table 4.2 It shows that a considerable number of teachers have not been trained on 5E model. Of the 40 principals in the sample only 11(27.5%) agree that the teachers in secondary classes of their schools have received training on 5E. Twentynine (72.5%) of them say that they have no idea, disagree or strongly disagree that their teachers have received a training on 5E.

Table 4.2: 5E Training given to teachers

School Type	5E-Training				Total
	Agree	No idea	Disagree	Strongly Disagree	
1AB	2	3	0	0	5
1C	4	5	1	0	10
TYPE2	5	11	8	1	25
Total	11	19	9	1	40

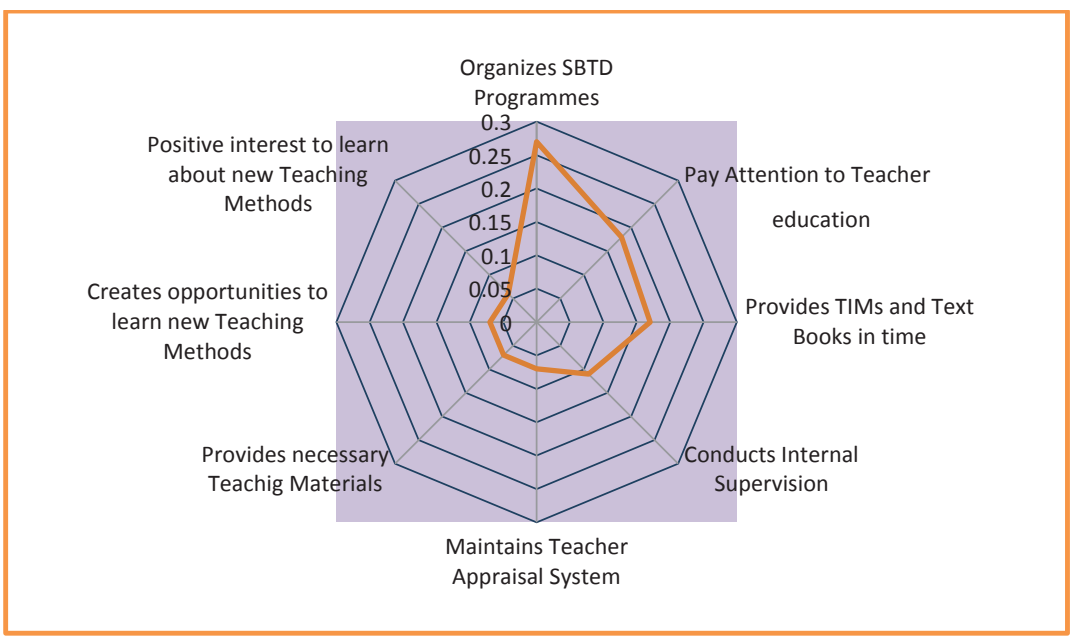


Figure 4.2: The nature of instructional leadership in secondary schools

The figure 4.2 shows, the nature of the function of instructional leadership role in secondary schools in Puttalam district.

According to the graph 4.2, the percentage of responses received by each aspect is visible. The graph clearly indicates how each aspect of the instructional leadership of the principal is practiced in the secondary schools in Puttalam district. The graph shows that the practice of instructional leadership in secondary schools in Puttalam district is not in a satisfactory

standard. Many of the activities of an instructional role of principal are not functioned to the expected level. For example, the method of teacher appraisal in secondary schools is not functioning systematically. The responses received by this feature are very low. Similarly, the principals in secondary schools agree that their schools are weak in providing necessary teaching materials for the teachers. The portion received by this statement in the graph 4.2 is also very low. The availability of opportunities for the teachers to learn about new teaching methods also has received very weak responses as shown in the graph 4.2. The interest in teachers in learning new teaching methods is also in a very weak position. The percentage of responses received by this practice is in the minimum level as shown in the graph 4.2.

Table 4.3: Teachers' opinion-on 5E model

School Type	Opinion-5E				Total
	Not Responded	Suit All Lessons	Suit for Some Lessons	Not a Good Method	
1AB	1	6	27	3	37
1C	0	7	22	2	31
TYPE 2	0	3	9	0	12
Total	1	16	58	5	80

The table 4.3 shows the teachers' opinion on 5E model. Of the 80 teachers in the sample, only 02(2.5%) had not responded the relevant question.16 (20%) of teachers in all three types of school say that the 5E is suitable for all lessons while 58(72.5%) say that 5E is suitable only with some lessons. only 6.25% of the teachers say that 5E is not a good method to teach lessons. Therefore this is evident that majority of the teachers agree that 5E is effective only with some lessons. Hence this fact is an indication that the 5E is not successfully used in secondary classrooms.

Table 4.4 : Teacher opinion on covering the syllabus

Opinion	Frequency	Percent	Valid Percent	Cumulative Percent
Not Responded	2	2.5	2.5	2.5
Very Easy	17	21.3	21.3	23.8
Difficult to cover	32	40.0	40.0	63.7
Unable to cover	29	36.3	36.3	100.0
Total	80	100.0	100.0	

The data analysis in table 4.4 shows the teacher opinions on covering the subject syllabuses while using 5E method in their teaching. According to the statistics in table 4.4 only 21.3% of the teachers are of the view that they can cover their syllabuses when they use 5E method in their teaching. But 40% of them have stated that it is very difficult to cover the subject syllabuses when they use the 5E model. And another 36.3% of the teachers are of the opinion that if they use 5E they cannot cover the prescribed subject areas in the syllabus with this method. Therefore, according to the teachers' opinion 76.3% of them have been motivated not

to use 5E in their teaching. The information collected from the deputy principals and the students too substantiate these findings. Ninety percent of the deputy principals agree that the 5E is an effective teaching model. But to the contrary, they say that they have not been trained on this method and also they are of the view that the teachers do not successfully use the 5E method in their classrooms. According to the analysis of teacher responses in the above tables, it can be derived that the teachers' attitudes regarding the 5E model is very negative. Hence these facts suggest the conclusion that the 5E teaching model is not successfully implemented in secondary classrooms. When triangulating this data with the student ideas collected through the interview, the conclusion is further verified.

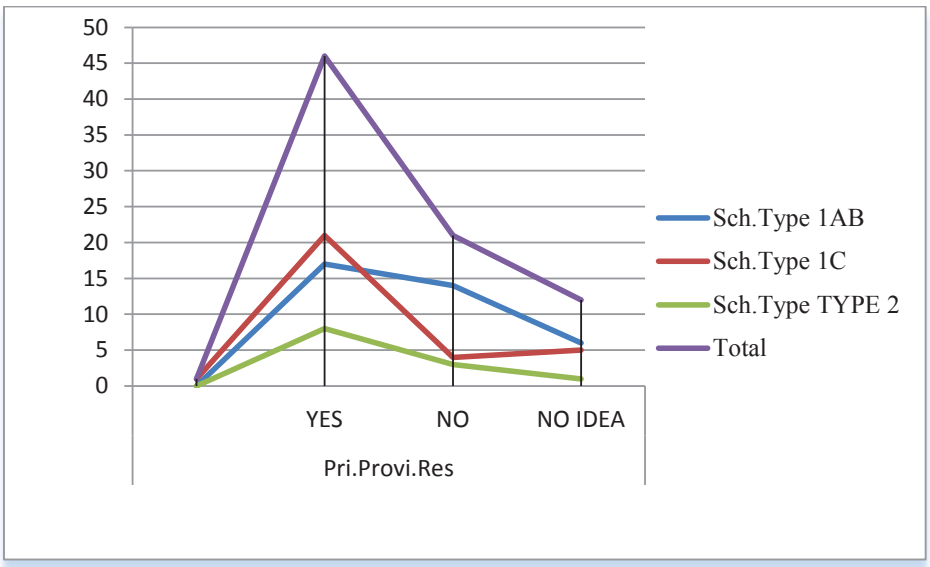


Figure 4.3: Provision of Resources for 5E by Principals

The graph 4.3 presents the analysis of data relating to the provision of resources by the principals in secondary schools supporting the implementation of 5E model. Greater number of teachers in all three categories of secondary schools agrees that their principals provide necessary resources to implement the 5E teaching model. Twenty one teachers in 1C schools (26.25%) agree that their principals provide necessary resources for 5E model. Only 04 (05%) of them disagrees this idea. With regard to 1AB schools 17(21.5%) teachers say that their principals provide them with the necessary resources for 5E model and 14(17.5%) of them disagrees. However, 56.25% agrees that their principals provide resources for them. At the same time 26.25% disagrees with this idea. Another 17.5% say that they have no idea about providing resources in their schools. However 43.75% of the teachers are against the idea that their principals provide necessary resources for them. This is a considerable number and it reveals that principals providing resources for the teaching learning process is not in a satisfactory standard. Non availability of resources in the school may also be a reason for this situation. The graph 4.3 clarifies this idea.

5.0 Conclusions and recommendations

5.1 Conclusions

I. The service experience of any profession is vital with regard to the quality of that particular profession. The greater number of principals in secondary schools in Puttalam district has less than 10 years' experience as a principal. This fact can affect the managerial quality of their service.

II. The most highlighted academic qualification of principals in secondary schools is the degree level. However the instructional leadership is a highly developed standard of principalship. Therefore these qualification levels of principals can affect the standard of the instructional leadership quality of them.

III. The leadership role of principals in secondary schools in the Puttalam district of Sri Lanka is instructional to a great extent.

IV. One major aspect of an instructional leader is paying attention on the teaching learning process of the school. This function is highly practiced in secondary schools in the Puttalam district.

V. The staff development is one major action of instructional leadership. To achieve this target SBTD is one method. When considering the secondary schools in the Puttalam district, the SBTD is widely practiced.

VI. The instructional leader pays much attention to the teacher development. This situation is satisfactory in the secondary schools category in the Puttalam district.

VII. The support given by the principal for carrying out the teaching - learning process in the school is satisfactory to a great extent.

VIII. A successful instructional leader implements a supervision procedure in the school. When considering the secondary schools in the Puttalam district, this aspect is in a satisfactory standard.

IX. The teaching learning process is the core of a school. All stake holders of the school bear the responsibility of maintaining a good standard of it .Specially the leader of the school has to guide all others to achieve the expected level of the of teaching learning process. However the school leaders in the secondary schools of the Puttalam district show a high standard of interest in the teaching learning process.

X. The principals' awareness of 5E is satisfactory. But the implementation of 5E method in secondary schools is not in a satisfactory level.

XI. The data analysis showed that training given to teachers is also not sufficient.

5.2 Recommendations

I. The school leadership is the main mechanism of a school. The person who holds this position should be qualified and experienced. In order to provide a satisfactory service to the school the principal should be in SLPS or SLEAS services.

II. In the point view of principals, they are of the view that they do an excellent service to the school. But still many areas of his role have to be developed. They need to undergo continuous training for their professional development. These trainings should develop their management skills.

III. The interaction between the principal and the school staff is a very essential requirement for the better management of the school. This interaction supports the decision making process in the school. It has become a responsibility of the higher educational authorities to develop this aspect in secondary schools.

IV. The principal is the overall leader of the school. He should have the capacity to run both administrative and academic activities in the school. The principal's attention paid to the core aspect: the teaching learning process in the school has to be developed.

V. The supervision in any institute which contains a staff is an essential managerial task. This allows the leaders to understand the real function of the institute and also the supervision helps the leaders to understand the functional issues in the institution. Therefore this practice has to be further developed in secondary schools.

VI. The training of teachers in the field of new teaching methodologies is inadequate. The training given on the 5E method is insufficient. For this reason the teacher attitude towards the 5E method is negative.

VII. There is a positive trend in conducting SBTD programmes. The content of these programmes should address the professional needs of the teachers.

VIII. The education technology plays a vital role in the field of education today. But the secondary schools in the Puttalam district are lacking the resources which are meant to support the teaching learning process in the school. It has to be taken immediate action even to facilitate these schools with minimum educational resources.

IX. It is very desirable if a common programme is conducted commonly to the whole staff aiming at the optimum use of educational facilities available in the school to facilitate the teaching learning process in the school.

6.0 References

Best, J.W. & Khan, J. V. (2001). Research in Education. New Delhi: Prentice Hall.

Blase, J. et al. (2000). Effective instructional leadership, Teachers' on how principals promote teaching and learning in schools. *Journal of Educational Administration*, 38(2), 130 – 41.

Brewer, H. (2001). Ten steps to success. *Journal of Staff Development*, 22(1).

Brookover, W. B. &Lezotte, L. (1982). Creating effective schools. Holmes Beach, FL; Learning Publication.

Elmore, R. (2002). Teaching, learning and school organization; Principles of practice and the regularities of schooling. Educational Administration Quarterly, 31(3), 355 – 74.

Ginige, I. L. (2008). Nawavishayamala dekma ha pasal adyapanaye apekshitha peraliya. Nugegoda; Deepani Printers.

Hallinger, P. & Murphy, J. (1985). Assessing the instructional management behavior of principals. Elementary School Journal, 86(2), 217 – 47.

Kerlinger, F. N. (1964). Foundations of behavioral research. Saunders, Holt.

Meetiyagoda, Y. T. S. (2007). Paladayee pasalak sandaha kalamanakaruwanta athwelak. *Education Management Annual Publication*. Vol. 16, 67.

Murphy, J. A. (2002). Improving the achievement of minority students. *Educational Leadership,* 46(2), 41-42.

New Education Act for General Education in Sri Lanka. (2009). *Context, issues and proposals- Final Report*, National Committee for Composing New Education Act for General Education.

Palvik, J. V. (1987). Public relations – What research tells us. New York: Sage Publications.

Rossow, L. E. (1999). The principalship. England Cliffs, N. J.: Prentice Hall.

Sheppard, B. (1996). Exploring the transformational nature of instructional leadership, *Alberta Journal of Educational Research*.42(4), 325 – 44.

Stronge, J. H. (1998). A position in transition? Principal. 67(5), 32 – 33.

Internet Sources

The 5E's.Retrieved January 7, 2013. http://www.enhancined.org/research.

The BSCS 5E Instructional Model. Retrieved January 7, 2013.http://www.unc.edu/destiny/5Es.htm

International Journal on New Trends in Education and Their Implications. (July, 2002), Vol. 3,Issue: 4. Retrieved February 10, 2013. http://www.ijonte.org/File.

How Leadership Influences Student Learning.Retrieved March 20, 2014.http://www.wallacefoundation.org/knowledge-centre/school-leadership/key-research.

Instructional Leadership –Journal of Educational Administration, June, 1999.Retrieved March, 20, 2014.
http.//www.peoplelearn.homestead.com/Instruct.Effective.pdf

THE IMPACT ON TEACHING THROUGH 5E MODEL: PERSPECTIVES OF PROSPECTIVE TEACHERS IN TEACHING SCIENCE IN SECONDARY SCHOOLS IN GAMPAHA DISTRICT, SRI LANKA.

Aregamalage Sujeewa Vijayanthi Polgampala[1]
PhD student
Hong SHEN[2*]
Dr. Fang HUANG[3]
School of Education
Huazhong University of Science and Technology
#1037 Luoyu Road, Wuhan 430074, P.R. CHINA[**]

Abstract

This study was to investigate classroom management and discipline problems encountered by prospective teachers in 5E model related classroom practices and were carried out in 2014. The research consisted of 60 Math & science prospective teachers at the Siyane National College of Education in Veyangoda. This was conducted in three stages. In the first stage, coaching lessons were conducted on the 5E instructional model and teachers were assigned to prepare activities using micro teaching and in the second stage, they were allowed to practice activities in the classroom. In the last stage, semi-structured interviews were administered and the results revealed that they had negative opinions on 5E model in the classroom practices. The design and implementing exceeded the time planned. Discipline problems were listed as the major constraint for most of new teachers. These drawbacks should be addressed in order to utilize 5E method in the school systems successfully.

Keywords: Classroom management, 5 E Instructional model, Prospective teachers

Introduction

Satisfaction and enjoyment in teaching depend upon when students cooperate to minimize classroom management issues and it is of the highest concern for the beginning teachers. This research explored the perceptions of prospective teachers, the constraints they faced when implementing the 5E model in the classroom.

Epistemological debate over the curriculum of teacher education, refer to changing conceptions of learning, teaching, and underlying assumptions about the nature of knowledge. Constructivism has become part of this debate because it advocates giving

2.[*] Corresponding Author: Hong SHEN, Email: hongshen@hust.edu.cn
3. Associate Professor

[**] Acknowledgement to Dr. Godwin Kodituwakku who provided related knowledge and supports on research and this study.

teachers strategies that will help them reflect upon transforming their instructional style. Producing professional competent teachers in order to achieve the objective of delivering quality education to every child is the mission of the Colleges of Education Branch of the Ministry of Education in Sri Lanka. Prospective teachers enrolled to National Colleges of Education in Sri Lanka underwent various types of management problems in their teaching practice sessions during the two year residential institutional training in the College and one year internship training while being attached to a school. During the course of three years they faced a range of constraints in classroom management in their teaching practice sessions.

Classroom management issues were of highest concern for beginning teachers although they planned for a favorable beginning, class procedures and learning activities and arranging the room in the best possible way. In the Colleges lesson plans and activity plans were used for teaching and learning, moreover, the 5E model was highly encouraged. The 5-E model is one of the best possible designs that emphasize the active role of the learner in building understanding and making sense of the world. The teacher sets up problems, monitors student exploration, guides student inquiry, and promotes new patterns of thinking but the researcher had observed the misbehaviors exhibited and the constraints faced by prospective teachers when teaching under the 5E instructional model.

Problem statement

Is there an impact of teaching through 5E Model on Classroom Management?

The purpose of the study

This study aimed to reveal misbehaviors, classroom management and discipline problems that Science and Math teachers encountered, as well as underlying reasons and possible solutions to these problems considering the views of parents, school administrators and teachers.

1) Is it practicable to conduct activities utilizing 5E instructional model?
2) What are the Positive Effects of the 5E Model?
3) What are the Negative Effects of the 5E Model?
4) What are the problems when being designed and applied an activity?
5) What classroom management problems that the prospective teachers face in their teaching practices?
6) What are the underlying reasons of the classroom management problems?
7) What are the possible solutions suggested by teachers, administrators and parents on the classroom management?

The main concern of research questions had risen, whether National Colleges of Education (NCoE) would use 5 E instructional models in the process of learning and teaching and shape the future teachers or whether there were possibilities in developing the ways of using it with the aims of reducing classroom management problems as an educational experience.

Review of Literature

Science teachers continuously strive to improve their instructional practices to enhance student learning. Complementing the aims of science teachers, curriculum developers systematically attempt to identify research findings they can incorporate in materials that will facilitate connections between teachers, the curriculum, and students. Recently, the use of coordinated and coherent sequencing of lessons-learning cycles and instructional models-has gained popularity in the science education community. Recent research reports, such as How People Learn: Brain, Mind, Experience, and School (Bransford, Brown & Cocking, 2000) and its companion, How Students Learn: Science in the Classroom (Donovan & Bransford, 2005), have confirmed what educators have asserted for many years:

In educational research, there are some studies related to the descriptions of learning and the existence of learning process. Educators are interested in how students learn and gather their knowledge. Scientists have more knowledge about how learning takes place and how effective learning can be provided; it causes some changes in learning theories. These changes have given rise to the wide range of learning theories to break out. Learning theories handle learning processes from different aspects and explain how people learn and what affects the learning processes.

In essence, learning theories are based on two approaches: behaviorist approach and cognitive approach. The scientists, who are in favor of behaviorist approach, describe learning as an acquisition of new behavior, focuses on observable behavior and disregard any mental activities. According to Craig (1968) when a person reacts to a stimulus it turns to habit and in time learning takes place. Behaviorist scientists focus on observable behavior in contrast disregard, cognitive scientists, focus on mental process. Cognitive scientists' aims are to discover the huge emphasis on mental process that how people learn, remembers and interact. According to cognitive learning theory, cognitive process is more important than stimulus-respond. The factors that provide the learning are perception, thought, insight and purpose.

In cognitive learning theories; constructivist approach is the most common approach. Piaget is the first person who put forward the constructivism. Piaget and Elkind (1968) thought that knowledge is obtained through life-long constructive process in which we make an effort to arrange and restructure our experience according to pre-existing schemes of thought. According to constructivist approach, learning occurs as new information coming outside when a person's current structure of knowledge, understanding and skills are reconstructed and added something on them. The constructive approach can be described in a shorter statement: Knowledge is constructed in the mind of learners .Constructivist approach has re-organized the roles of teacher and student in the classroom environment. Because of the fact that constructivism gives the ownership of learning process to students. Teachers' roles are being a coach or consultant in constructivist approach. The vision of constructivist

approach is that student constructs the knowledge in mind and plays active role in learning process; the roles may be creative about building of personal knowledge.

Furthermore constructivist approach has changed the teacher's role in classroom environment. In context of behaviorist approach, while teacher has active role in learning process, teachers' active participation has been reduced in the constructivist approach. Teachers' responsibilities are guiding students, organizing the classroom environment and encouraging the interaction between students and teachers. Also teacher plays an important role for students to construct new knowledge according to pre-existing scheme of knowledge.

Constructivist approach is a learning theory and some learning models can be used in order to put this approach into practice. There are a lot of ways to apply constructivist approach in science education such as the 4E Model, 5E Model and 7E Model. One of the ways of applying constructivist approach in elementary science education is the 5E model which was firstly put forward by Atkin and Karlplus in 1960's and was detailed in 1997. The Biological Science Curriculum Study (BSCS), a team led by Principal Investigator Roger Bybee, developed the instructional model for constructivism, called the "Five Es". Other models have been adapted from this model including the 6E and 7E models. This model consists of 5 phases: Engage Explore, Explanation, Elaborate and Evaluation. The first section provides a brief history of instructional models and discusses the Science Curriculum Improvement Study (SCIS) learning cycle (Karplus&Thier, 1967), the predecessor to the BSCS 5Es. After that discussion, the same section summarizes research supporting contemporary views of learning and the effectiveness of different instructional models, with emphasis on the BSCS 5E model.

The 5E Model:

(1**) Engagement**: The teacher assesses the students' prior knowledge and helps them become engaged in a new concept through the use of short activities. These activities promote curiosity and elicit prior knowledge. The activity should make connections between past and present learning experiences, expose prior conceptions and organize students' thinking toward the learning outcomes of current activities.

(2) **Exploration**: In this phase, students are facilitated with a common base of activities within which current concepts (i.e., misconceptions), processes and skills are identified and conceptual change. Students may complete lab activities. These activities help them to use prior knowledge to generate new ideas, explore questions and possibilities and design and conduct a preliminary investigation.

(3) **Explanation:** The explanation phase focuses students' attention on a particular aspect of their exploration experiences and provides opportunities to demonstrate their conceptual understanding. This phase also gives teachers the opportunity to directly introduce a concept, process or skill. Students explain their understanding of the concept. An explanation from the teacher may guide them toward a deeper understanding, which is a critical part of this phase.

(4) **Elaboration:** Teachers challenge and extend students' conceptual understanding and skills. Through new experiences, the students develop a deeper and broader understanding, more information and adequate skills. Students apply their understanding of the concept to a real world situation.

(5) **Evaluation:** The evaluation phase encourages students to assess their understanding and abilities, and it provides opportunities for teachers to evaluate student progress toward achieving educational objectives. Also, the teacher should observe students' knowledge and skills along with their application of new concepts and a change in thinking.

The BSCS 5E Instructional Model has its origins with the work of earlier science educators, in particular the Karplus and their learning cycle developed for the Science Curriculum Improvement Study (SCIS). The findings reported in the National Research Council research summary How People Learn supports the design and sequence of the BSCS 5E Instructional Model. Since the late 1980s, BSCS has used the 5E Instructional Model extensively in the development of new curriculum materials and professional development experiences. The BSCS 5E Instructional Model also enjoys widespread use beyond BSCS: at least three states strongly endorse using the BSCS 5E Instructional Model, and a Google search shows ubiquitous use of the model for curriculum frameworks, assessment guidelines, or course outlines; curriculum materials; and teacher professional development.

Teacher's capacity of assimilation and utilization of the 5E instructional model has an effect on learning productivity and good management of learning process. Therefore it is very important to adopt the 5E instructional model in learning environment. In this respect, the 5E instructional model was generally used in the course context in order to learn and utilize the 5E instructional model. Therefore; it is very important to determine the perceptions of the prospective teachers about the 5E instructional model. When the literature is examined, it can be seen some studies is carried out on investigating effects of the 5E model on student success enveloping instructional materials for the 5E Model. Amongst these studies, however, determining perceptions of teachers is very limited on the 5E instructional model. The aim of this study is to determine teacher perceptions on utilizing the 5E instructional model in science learning-teaching process and find out problems encountered and to suggest possible solutions.

Methodology

The Survey research methodology was used to describe attitudes, opinions, behaviors or characteristics of the group and was aimed to systematically examine that qualitative measures were used to examine perspectives and meanings that teachers formed about teaching and learning. Research shows that a high incidence of classroom disciplinary problems has a significant impact on the effectiveness of teaching and learning. In this respect, it has been found that teachers facing such issues fail to plan and design appropriate instructional tasks. They also tend to neglect variety in lesson plans and

rarely prompt students to discuss or evaluate the materials that they are learning. In addition, student comprehension or seat work is not monitored on a regular basis.

Surveys are the most frequently used method used in science education research. However, because the educational community is the most frequently surveyed population in the US, response rates are typically low. Therefore, it is critically important that potential respondents perceive surveys as important and interesting so they are more likely to participate in the research. Not only must the items be interesting, they must be limited so that the survey is not a burden for busy people. If each item provides a critical piece of information and response rate is high, the researcher should be in a good position to answer his/her question.

Method

In this study, both the qualitative and quantitative data collection techniques were used. Qualitative research is a method in which researchers examine subjects in their natural environment, make an effort to comment about it. In this frame the semi-structured interview was made to collect data. It is possible to determine experiences, attitudes, thoughts, intentions, comments, cognitive perceptions and reactions through interviews. The data were coded to themes and sub themes using grounded theory.

Sample

The total population of the 2013/2014 (27th batch) at Siyane National College of Education (Figure 1) was two hundred and twenty five (225) and 60 of them were randomly given to the researcher for the supervision of two teaching practice sessions. The sample consists of Science and Mathematics prospective teachers in both sexes. These teachers were to teach science and maths for their practice sessions in 13 secondary schools in Gampaha, Munuwangoda and Negombo Educational Zones.

Process

This research was carried out during second semester of 2014 at Siyane National College of Education, Veyangoda with 60 prospective teachers in the Science, Maths and Technology Course. The prospective teachers learnt theoretical knowledge about constructive approach and its' model such as four steps, the 5E model in second year in context of Science, Maths and Technology. For that reason it was assumed that prospective teachers had enough knowledge about constructivist approach and its' model. The research was completed in three stages.

In the first stage: the standards related to science subjects in second year Science, Maths and Technology course content were given to the 60 prospective teachers. They were asked to design an experiment that is appropriate with the constructivist approach. Each designed at least two activities on the selected topic, thus the total number of activities was 120.

In the second stages: the prospective teachers were asked to carry out those activities individually within 25 minutes in the classroom. This process lasted for fourteen weeks.

All of the prospective teachers presented these activities based on the 5E model in the classroom.

In the third stage: the semi-structured interviews were conducted with the prospective teachers to determine their perceptions on the 5E instructional model.

Data collection

In the research in order to determine their perceptions about the 5E instructional model of the constructivist approach, face to face interviews were carried out with two randomly selected 20 prospective teachers. The interview schedule consisting of open-ended questions was developed. The draft interview schedule was examined by four experts, two teachers at the scope of measurement and assessment and two English lecturers. Based on experts ideas necessary corrections were made on the interview schedules in which final version consisted of five questions. Interviews were held in a place where the prospective teachers felt themselves comfortable and could explain their views without hesitation. Each interview was recorded and lasted for 10 minutes.

Data analysis

The first step taken in the analysis of the interviews was to organize data procedures which were recommended by Bogdan and Biklen (2003). In organizing the data, the researcher revisited each interview and listened to each audiotape while reviewing the transcripts to ensure the accuracy of the data. Each participant's interview transcripts were later analyzed according to data analysis procedures described by Bogdan and Biklen (2003) which call for development of coding categories, mechanical sorting of the data, and analysis of the data within each coding category. The initial codes were supplemented with emergent main categories and sub-codes. In this study, a realist mode was used to represent the participants' perspectives through closely edited quotations and interpretations of those quotations. Thus, the researchers neither claimed to be arbiters nor assessor the right answers about questions related to 5E instructional model, but the researchers let the participants share their views on the 5E instructional model. The interview data were coded and classified into categories by the researcher. Then the categories were grouped and reduced to the following set of descriptions and themes:

1) Practicability of the 5E Model
2) Positive Effects of the 5E Model
3) Negative Effects of the 5E Model, and
4) Classroom management problems when utilizing 5E instructional model

Besides, it was regarded that many sub-codes could be constituted from the replies of the prospective teachers. It was taken into consideration that extra sub-codes might have been formed from the answers which were given by prospective teachers. After the researcher had formed main categories and sub-codes, frequency was kept about sub-codes. In the finding, main categories, sub-codes and values of sub-codes frequency were displayed in tables. The results of the interview data were presented as a description of the emergent themes that were developed through the content analyses. All participants in the study were given pseudonyms (such as: Prospective Teacher 1,

Prospective Teacher 2, Prospective Teacher 3,…) in order to keep their identity anonymous. After the content and descriptive analysis, main categories and sub-codes were compared and the ones with consensus and the ones with disagreement were discussed and necessary regulations were made. The reliability formula which formulates the reliability, as Reliability = Consensus /Consensus + Disagreement was suggested by Miles and Huberman (1994) and this reliability was used for the research. The reliability was calculated as 81 %. Since the reliability calculation exceeds 70 %, this calculation can be accepted as reliable.

Research ethics adhered

Since the research involved a great deal of cooperation and coordination among many different people in different disciplines and institutions, ethical standards promoted the values that are essential to collaborative work, such as trust, accountability, mutual respect, and fairness. The researcher had adopted specific codes, rules, and policies relating to research ethics when collecting data and analyzing as well as the anonymity of the target group was maintained. Permission was obtained before video recording lessons and prior consent was taken before the interviews and the interviewees were well aware about the purpose of the interviews.

Findings

The effectiveness of the learning through 5E model is also well documented in more contemporary research. Recent research studies showed that the use of 5E model had positive changes in students' mastery of subject matter, scientific reasoning, and interest and attitudes toward science.

Practicability of 5 E

It was seen that most of the teachers 89%, thought that the 5E instructional model could be put into practice in most of the time. But a few of them did not agree. In literature, there were some studies that the teachers wanted to apply the 5E instructional model in the classroom. From this research it was found out that prospective teachers 20% were willing to use the 5E instructional model in the classroom. But few prospective teachers 20% believed that the 5E instructional model could not put into practice in all the lessons in all the time.

Positive effects of the 5E model

Many 18% prospective teachers thought that the 5E instructional model helped to develop student creative thinking. Most of the students wanted to learn topics continuously with the 5E instructional model. Some 35% prospective teachers said that the 5E instructional model provided active participation in lessons, So that the students become not passive listeners but active creators.

Negative effects of the 5E model

Many 25% prospective teachers thought that the 5E instructional model did not have any negative effect. Generally, the prospective teachers have positive opinions about the 5E instructional model. But some 15% prospective teachers expressed that the 5E cannot be applies in the classroom, due to lack of learning material and equipment.

Classroom management problems when utilizing 5E instructional model

If the teacher is not well organized to establish with a productive atmosphere in the classes when using the 5E model she/he cannot increase the student participation and engagement through this teaching method. The problems associated with classroom management were grouped under several themes; lack of motivation, breaking the rules and routines, lack of infrastructure, insufficient time management, ineffective classroom environment, and lack of interaction in classrooms.

Table 1- Frequency of sub-codes related with the 5E model's practicability

sub-codes	Frequency (n=60)	percentage (%)
If the topic which is going to be taught is suitable, it can be applied	12	20
If prospective teacher embraces 5E model, it can be carried out	12	20
If the subject is appropriate, 5E model can be performed.	09	15
If school and class environment conditions are convenient, the 5E model can be practiced	09	15
If the level of students is suitable, 5E model can be performed	08	13
If the teacher predominates on the subject, 5E model can be applied.	04	6
The 5E model is so difficult and it cannot be performed.	08	13
The 5E model takes so much time that it cannot be applied.	04	6
It is so difficult to provide student participation that it cannot be practiced.	01	1

When Table 1 is examined, most of the prospective teachers thought that the 5E model could be practiced for subjects but some of them stated that the 5E model could not be practiced. 20% of the prospective teachers were with the opinion that "the 5E model could be practicable", if the topic which is going to be taught is suitable. At the same time, 20 % of them agreed with the fact that "If prospective teacher embraces the 5E model, it can be carried out". 15 % of them was with the opinion that "If school and class environment conditions are convenient, the 5E model can be practiced", and "If the subject that is taught is appropriate, the 5E model can be performed". Contrary to them 13 % prospective teachers thought that "The 5E model is so difficult and onerous that it cannot be performed" and 6 % prospective teachers stated that "The 5E model takes so much time that it cannot be applied". The answers that were given by the prospective teachers were shown below: "This approach is better because it is student-centered. It is effective to keep student's interest, care and concentration. However teachers need to embrace and adopt that approach. If teacher adopts and embraces it well, he teaches well. " (Prospective teacher 10) "The 5E model of the constructivist approach can be applied to science education but I think it is very difficult to be applied to social studies. Because it is very tough to design activities or experiments at the phase of discovery, the

5E model's practicability depends on nature of subject. " (Prospective teacher 1) "First the 5E model is a good method to have the knowledge rather than giving it straight but the child's prior knowledge to his initial experience and discovery. This causes the knowledge to be permanent. However if we assume that we practiced it to the classroom with 45-50 students, it was not possible to teach productively. Therefore, condition of the equipments, the size of the classroom and the environment are important for the 5E model's practicability". (Prospective teacher 38)

In the interview, another questions was directed as "Do you think that the 5E model has any positive effect? Please explain." to teachers. According to answers, it was consisted of categories and sub codes and frequency them. This frequency levels is given in the Table 2.

Table 2: Frequency of sub-codes related with the 5E model's positive effect

sub-codes	Frequency (n=60)	percentage %
It maintains the permanency of student learning with the 5E model	25	41
Students participate in lessons actively with the 5E model	21	35
Teachers what to teach and how to teach with the 5E model	08	13
The 5E model ensures the topic which is taught to be concrete	08	13
Students engages in lessons of 5E model with more pleasure	07	11
Students get motivated to lessons with the 5E model	07	11
Student interesting to lesson are increases with the 5E model	07	11
Students' communication skills increase with the 5E model	07	11
The 5E model encourages students to do research	06	10
Teachers develop self-confidence with the 5E model	06	10
The 5E model encourages teachers and students to ask questions.	05	08
Student develops self-confidence with the 5E model	05	08
The 5E model helps the teacher to improve himself	04	06
The 5E model helps the teacher to use learning materials effectively	03	05
The 5E model ensures that student understand the lesson better	02	03
The 5E model enables the student to evaluate himself.	02	03

When Table 2 is examined, the prospective teachers hold opinions with related to most of positive effects of the 5E model. 41% of prospective teachers thought that "It maintains permanency of student learning", 35% of them hold the fact that students participate in lessons actively. 13 % of them were with the fact that "It helps teachers what to teach and how to teach", 13 % of them agreed with the fact "It ensures the topic which is taught, to be concrete" while 7 of them were with the idea of "Students have

more pleasure with the lessons using the 5E model". The answers that were given by the prospective teachers were shown below: "I think the 5E model has a lot of positive effects, because teacher and students play active roles in lessons. According to this model student needs to take part in the lesson actively. The students are so active that the knowledge which is learnt is more permanent." (Prospective teacher 20) "I believe the knowledge that is taught through the 5E model is more permanent. In the 5E model the student's preliminary learning is inspected so teacher teaches according to the student case. This helps the teacher to decide what to teach and how to teach. Moreover the lessons which are instructed with the 5E model found to be more pleasurable."(Prospective teacher 60)

Table 3- Frequency of sub-codes related with the 5E model's negative effects

sub-codes	Frequency	Percentage (%)
The 5E model does not have any negative effect.	15	25
There is not enough material to apply 5E model.	09	15
I need much time to apply 5E model	08	13
The 5E model application is very tiring	05	08
If the 5E model is not used effectively, misunderstanding appears.	06	10
Having difficulty with active student participation	05	08
The 5E model confuses to students' mind	05	08

When Table 3 is investigated it could be seen that 25 % of prospective teachers said that "The 5E model does not have any negative effect", 15 % of them agreed with the fact that "There is not enough material to application of the 5E model". 8 % of them said that "The 5E model application is very tiring" and 8% of them said that "If the 5E model is not used effectively, some misunderstanding appears". In addition, the answers given by the prospective teachers were shown below: "I don't think the 5E model has any negative effect. Because when I introduce the topic, it becomes effective. I have a facility to create a discussion ambiance .This is effective. (Prospective teacher 5) "One of the most negative effects of the 5E model is inability to find material about the topic. I think the most affecting factor for not using the 5E model among teachers is lack of the learning material. (Prospective teacher 22)" "Asking questions continually gets me bored. Sometimes students are jammed with giving answers to the questions. Besides I do not have enough time for the presentation that we made during the lessons. When I couldn't receive the replies that I wanted, I slogged away in picking up the topic. I did not manage the time effectively. (Prospective teacher 16)

In the interview, it was directed a question as "Did you encounter any problem when you designed and applied an activity concerning the 5E model? Please explain" to teachers. Table 4 presents the analyzed data related to this.

Table 4: Classroom management problems when utilizing 5E instructional model

Problem	Frequency	Percentage (%)
Unable to finish activities during the set time	50	83
Difficult to control the class during exploratory stage	24	40
Some students dominate the group work	41	68
Some students idle while work is done	15	25
Too much preparation ,a burden for the teacher	18	30

Both table 4 and the figure 1 clearly show that the major classroom management problem faced by 83% of the prospective teachers was the time management. In addition 40% of the sample has faced the problem of managing the classroom during the exploratory stage of the 5E cycle. Meantime almost all the prospective teachers (93%) had problems in relation to the group learning of the 5E instructional model. The percentage of prospective teachers who encountered the problem of over burden in preparation was 30%.

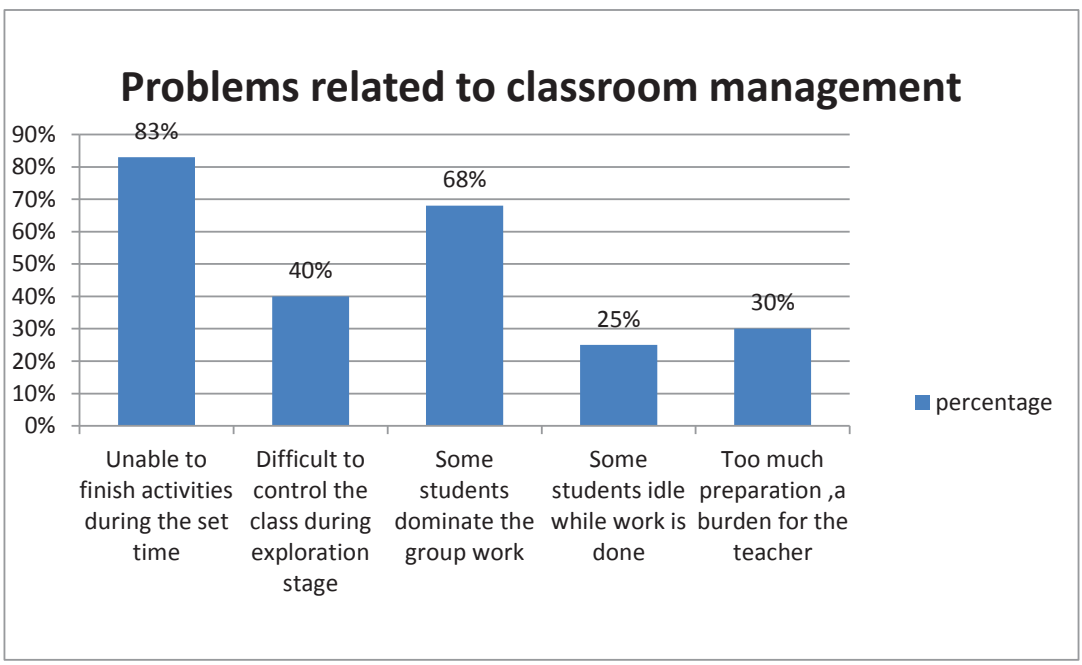


Figure 1: Classroom management problems when utilizing 5E instructional model

"Probably the biggest issue with which I struggle as a teacher is classroom management," a teacher claim.
From the table and the graph this fact is distinct and it is also proved from the views of the principals in the Gampaha Educational Zone. "Do you like to get trainee teachers from NCOEs?
"I do not like to get trainee teachers from these colleges as they mess up whole procedure. They apply 5E model which my permanent staff do not wish to apply as it is an extra burden to them, in preparing activities for groups""prospective teacher 50", (interview 06/07/2014).
There's plenty of evidence to suggest that she is not alone. The half of the surveyed teachers and the principals (84 %) cited classroom management as one of the biggest challenge faced by new teachers.

Discussion and conclusion
This study's aim was to determine perspectives of prospective teachers about classroom management problems in using the 5E instructional model. The results were collected under four categories, the 5E model's practicability, the 5E model's positive effects, the 5E model's negative effects and classroom management problems in relation to designing and implementing activities using 5E instructional model as novice teachers. Most of the prospective teachers are in agreement with the fact that designing and applying of activities take too much time and make them excited when activity is being practiced in the classroom. So it could be claimed that there is an impact of teaching through 5E model on the classroom management.

Classroom management problems when utilizing the 5E instructional model
Classroom management is a topic of enduring concern for teachers. The beginning teachers consistently rank it as their most pressing concern during their early teaching years. Management problems continue to be a major cause of teacher burnout and job dissatisfaction. Strangely, despite this enduring concern on the part of educators and the public, few researchers have chosen to focus on classroom management or to identify themselves with this critical issue. This is moreover the major issue the prospective teachers faced specially when utilizing the 5E model in the class. Although they were well prepared for the lesson with prepared activities they had encountered problems such as to finish activities during the set time (83%), difficult to control the class during exploratory stage, dominating the group work by some students. Some students are idle while work is done, too much preparation and over burden for the teacher.

Recommendations
Although a considerable amount of research had been carried out on 5 E model, many aspects had not been investigated sufficiently. Research showed that a high incidence of classroom disciplinary problems had a significant impact on the effectiveness of teaching and learning. In this respect, it was found that teachers facing such issues in failing to plan and design appropriate instructional tasks. They also tended to neglect variety in lesson plans and rarely prompt students to discuss or evaluate the materials

that they were learning. In addition, student comprehension or seat work is not monitored on a regular basis. Recommendations were drawn based on the evidence obtained through the activities carried out in scope of the research. Classroom teachers should consider how to prepare learning environments in which students will be active in accordance with students' characteristics and then present these environments to students. Creating techniques based on the 5E instructional model on various subjects will attach a higher degree of importance on the 5E instructional model based on the constructivist approach. In addition, the education of trainee teachers will benefit from these methods. Finally, following solutions were suggested to overcome disciplinary and classroom management problems; improvement in teachers' qualification, regulation at place and structure of the course in the curriculum, organizing motivational activities, using software which controls computers usage in classroom and guiding the prospective teachers to self adopt with the possible adjustments in their procedures in applying the intervention. A small adjustment in an intervention can produce a major change in the outcome. The BSCS 5E instructional model helps to create more productive moments in your classroom. The Teaching of Science will prove to be thought-provoking and beneficial for all science teachers as they seek to help students become informed and engaged citizens in the 21st century. The sustained use of an effective, research-based instructional model can help students learn fundamental concepts in science and other domains. This model addresses topics such as contemporary challenges in science education, curriculum and instruction, inquiry in science teaching, and the development 21st-century skills.

Limitations

The results cannot be generalized since the research sample is limited to one particular College in the country further; it is difficult to predict the impact of constructivism on classroom management as it may vary from the strategies used by the teacher and the learning environment. The duration given for the research was limited to three months period, the work load and the hectic schedules of the College were some constraints to the research.

References

Airasian, W.P. and Walsh ME. (2004). Constructivist cautions. Phi Delta Kappan 1997:78:444–449Simsek N. Constructivist learning and a critical approach to teaching. EducSciPract;3:115–139

Atkin, J.M. K. R. (2002) Discovery or Invention? Science Teacher. Kluwer Academic/Plenum Publishers, New York.

Bodner, G.M. (1986).Constructivism: A theory of knowledge. J ChemEduc;63:873–878Vermette P, Foote C. Constructivist philosophy and cooperative learning practice.

Bogdan, R. C & Biklen, S. K. (2003). Qualitative research for education: An introduction to theories and methods (4th ed.). New York: Pearson Education group. (pp. 110-120). Bybee, R.W, Taylor, A.J, Gardner,

Craig ,R. (1968).The Psychology of learning in the classroom, New York: The McMillan Company Press.

Ergin, I. (2009) An example of 5E model on the academic success recognition level of students: "Projectile Motion". Mehmet AkifUnivEducFac J;18:11–26.

Horstman, B, & White, W.G. (2002) Best practice teaching in college success courses: integrating best practice teaching methods into college success courses. J Teach Learn;6:6–15.

Metin, M, & Ozmen, H. S. (2009). Evaluation of practices in Science and Technology Based On 5E teaching model In view of elementary prospective teachers. The First International Congress of Educational Research, ÇanakkaleOnsekiz Mart University, Canakkale.

Powell, A. S P.V , & Westbrook, A .L. N. (2006) The BSCS 5E instructional model: Origins, effectiveness and applications. Retrieved. fromhttp://www.bscs.org/pdf/bscs5eexecsummary.pdf, Bybee RW (Ed.). Learning Science and the Science of Learning. Virginia: NSTA Press, 2002

Kodituwakku, G. (2000). 'Prashnawalee', (Questionnaire) Dewey Class. No.: 370.72 / K52ISBN: 9559586548. Richardson V. 1997). (in Sinhala)

Richardson, V. (2007). Constructivist teaching and teacher education: Theory and practice. (Ed.), Constructivist teacher education: Building a world of new understandings, 3-14. London: The Falmer Press

Seyhan H, Morgil I. The effect of 5E learning model on teaching of aid- base topic in chemistry education. J SciEduc;2:120–123.

Tok H. (2011). Classroom instructional responsibilities and learner autonomy: A case study in Turkey. Energy EducSciTechnol Part B;3:211–220

TEACHERS PERCEPTION ON FACTORS AFFECTING THEIR PARTICIPATION IN PROFESSIONAL DEVELOPMENT PRACTICES

R. Mangaleswarasharma
Department of Secondary and Tertiary Education, Open University of Sri Lanka
A. Sathiaseelan
Department of Education, University of Jaffna.

Abstract

The study explores the factors affecting teachers' participation in professional development (PD) practices. Population of the study consisted graduate teachers in Sri Lanka. A sample of one hundred and fifty five graduate teachers following Post Graduate Diploma in Education programme (PGDE) at Jaffna Regional Centre (JRC) of the Open University of Sri Lanka (OUSL) and eighty six graduate teachers following PGDE at University of Jaffna (UJA) in 2014/2015 academic year were purposively selected for this study. A self-developed questionnaire, built up by reviewing related literature was used for data collection. Focus group interview was also used to elicit further responses from teachers. Quantitative data collected through questionnaire survey was analyzed using frequencies and percentages. Data gathered from focus group interview was analyzed qualitatively. The study identified five facilitating factors namely school factor, personal factor, institutional factor, family factor and social factor. Meanwhile, the inhibiting factors were categorized under seven themes namely, time factor, heavy workload, institutional factor, personal factor, school factor, family factor and factors related to educational administration. Teachers perceived teacher education institution as an important factor affecting their participation in PD practices. 63.9% of the respondents perceived it as a facilitating factor where 19.2% of them perceived it as an inhibiting factor. 18% of the respondent teachers perceived school as a major factor facilitating their PD participation, where 11.2% of them indicated educational administration as an inhibiting factor.

Major Key words: Professional development participation, Graduate teachers, Facilitating factors and Inhibiting factors.

Introduction

Education is a future oriented business because it aims to prepare today's children for the future. (Zhao, 2010). In this sense teachers' professional development is even more future oriented business for it aims to prepare globally competent teachers for future educational institutions. In this age of information technology, teachers must keep their traditional devotion to students and hands on interaction while teaching students how to navigate their 21st century world. The 21st century teacher has to play different roles such as the adaptor, communicator, learner, visionary, collaborator, risk taker, model and leader. To equip the teaching body with the skills and competencies needed for its' multi roles, it is necessary to have both quality initial teacher education and a coherent process of continuous professional development to keep the teachers up to date with the skills required in a knowledge based society. Therefore teachers should be professionally prepared and upgraded to accommodate the changing roles and to cope with the emerging trends in the education.

Professional Development is important for teachers' career development as well as their personal lives. It enhances their knowledge, skills and attitudes and enables them to enrich approaches in order to improve the quality of teaching and learning. In short, professional development focuses on fostering individual competence to enhance practice and facilitate dynamic changes in children. Post Graduate Diploma in Education (PGDE) programme is one of the major long term in service programme in Sri Lanka. PGDE is the basic professional qualification a Sri Lankan graduate teacher can obtain. The main purpose of PGDE courses is to bring about professional and career advancement of non trained graduate teachers by introducing and institutionalizing a post graduate training strategy that can ensure their commitment and active participation in quality improvement in Education. (Post Graduate Diploma in Education-Course Discription, University of Jaffna, 2003). Four major universities namely University of Jaffna, University of Colombo, University of Peradeniya and Open University of Sri Lanka and National Institute of Education (NIE) offer this programme. All PGDE programmes can be classified into three main types; Full time, part time and distance mode.

Teachers' perceptions and attitudes towards their professional development practices and factors affect those practices have a powerful impact on the effectiveness of those programmes after implementation. (Hatting, A. De Kock, D.M., 2008). Therefore, strong consideration should be given to teachers' perception on factors affecting their participation in professional development practices. Further, measures should be taken to examine what are teachers' perceived factors that affect their participation in professional development practices. The present study tries to identify the teachers' perceived factors that affect their participation in professional development practices.

Literature review

This part of the study presents the findings of analysis of related literature on factors affecting teachers' participation in professional development practices.

As adult learners teachers are hindered by factors that make it hard for them to participate in professional development programmes. Wilson & Cobette (2001) found the most important hindering factors including time constraints, financial constraints, distance, information gaps, and lack of face to face interaction and mismatch of goals.

Kang et al. (2013) reviewed some content factors affecting the effectiveness of PD namely student characteristics, teacher characteristics, principal leadership, school culture and policy related to curriculum and assessment system. Where, Desimone (2009) identified the teacher characteristics as prior experience, content knowledge, beliefs and attitudes. Further, Banks & Smith (2010) identified some teacher characteristics such as gender, age and experience of teaching as the determinants of teacher participation in continuous PD.

On the other hand, School culture and principal leadership can also affect teacher learning. Villegas- Reimers (2003) stated that conceptual, contextual and methodological factors that contribute to a successful PD programme.

Gusky and sparks (1996) also discussed three categories of factors that influence teachers' professional development and listed them as content characteristics, process variables, and context characteristics. Similarly, Komba(2008) remarked the contextual factors that impact teachers' PD practices as role of the school leadership, organizational culture, external agencies

and the extent to which site based initiatives are supported. He further stated that methodological factors relate to the processes or procedures that have been designed to support teachers' PD and he further explained teacher PD is a function of interaction between stakeholders namely ministry responsible for teacher education, universities, schools, community and the teachers themselves. He stressed teachers' motivation as the most important of all factors. He further explained one who accepts the need to grow professionally and perceives PD positively is eager to attain new knowledge, skills, attitudes, values and dispositions.

Yamagata-Lynch and Haudenchild (2006) identified the barriers to PD as lack of time, lack of money and opportunities not meeting teachers' needs. Merriam and caffarella (1999) also proposed that adults may possess barriers to learning participation and stated two main reasons as lack of time and money. Harris *et al.* (2001) also suggested that educators are unable to complete a PD activity due to lack of time.

According to Wayne et al. (2008) factors regarding lack of staff involvement in PD process were the characteristics of teachers' immediate environment, the tensions of maintaining one's heavy load of job responsibilities, lack of monetary reward for taking an extra assignment, lack of time in general for participation in off hours and need to maintain one's personal life outside of work.

TALIS survey listed the factors underpins the teachers' participation in PD activities as conflict with work schedule, unsuitable PD, family responsibilities, lack of employer support, lack of pre requisites and too expensive.

In a study conducted by Kang et al.(2013), they identified three contextual factors such as student characteristics, teacher characteristics and school characteristics impacting PD.

In a case study conducted in Greece, Infanti (2011) observed that teachers' PD has been influenced by personal, professional and cultural factors. Hustler et al. (2003) studied teachers' perceptions of continuing professional development (CPD) and found that teachers' thinking about CPD varied in relation to school context and career stage, age and subject affiliations. They further shown financial cost, distance from training opportunities and workload were important inhibitors of access to CPD.

Banks and Smyth (2010) conducted a study on CPD among primary teachers in Ireland, in which the main sample consisted of eight thousand nine year old children. 1916 primary teachers were also used for data collection. The findings of the study showed teacher characteristics such as teaching experience and gender have significant effect on the CPD participation and take up among teachers. This study further indicated organizational factors such as school size, school location do not influence CPD take up where a positive school climate influence it.

Kwakman (2003) conducted an empirical study about a number of factors affecting teachers' participation in CPD in the Netherlands. In her study, three factors, personal factors (i.e. professional attitudes, appraisals of feasibility, appraisals of meaningfulness, emotion exhaustion, loss of personal accomplishment), task factors (i.e. pressure of work, emotional demands, job variety, autonomy, participation), and work environment factors (i.e. management support, collegial support, intentional learning support) were used to examine the

effects on teachers' participation in CPD. As a result, of these three factors, personal factor seemed to be more significant in predicting teachers' participation in CPD activities than task and work environment factors.

In an exploratory study conducted by Wan and Lam (2010) on teachers from two primary schools in Hong Kong, in order to explore teachers' perceptions of factors affecting teachers' participation in CPD, they identified school factor, personal factor, financial factor, time, CPD provider, family factor, relationship with others and government factor as facilitating factors. Where, factors such as time, heavy work load, financial factor, CPD provider, school factor and personal factor were identified as inhibiting factors.

Incecay and Bakioglu (2010) conducted a study aimed to investigate factors affecting teachers' professional learning. A total of four hundred and eighty two state primary school teachers working in Istanbul province, Kadikoy and Umraniye regions in 2006-2007 academic years participated in this study. It was found that, the factors do differentiate according to gender, teachers' career phases and class size.

To sum up, the above studies examined a number of factors that affect teachers' participation in PD activities. The literature describes various factors including time, finance, heavy work load, job and family responsibilities, culture and school that influence teachers' PD participation. Teachers' participation in PD practices can be positively or negatively influenced by such factors. The present study takes an exploratory approach to further examine the factors affecting teachers' participation in PD practices in the Sri Lankan context.

Objectives of the study

The general objective of this study is to explore the factors affecting teachers' participation in professional development practices.
The specific objectives of the study are

- To identify the factors facilitating teachers' participation in professional development practices
- To investigate the factors inhibiting teachers' participation in professional development practices

Research methodology

Research design

This study used a survey research design, which came out of quantitative and qualitative data collection framework. Qualitative research methods focus on discovering and understanding the experiences, perspectives and thoughts of participants. Focusing on the phenomenological aspect of qualitative research allowed the study to incorporate teachers' perceptions both emotionally and intellectually about the factors that affect their participation in PD practices.

Population and sample

This study involved the population of Graduate teachers in Sri Lanka. The target population was Graduate teachers in Jaffna district. The sampling technique used in this study was purposive sampling technique. All the Graduate teachers who followed PGDE either at Jaffna Regional Centre of the Open University of Sri Lanka (OUSL) or University of Jaffna (UJA) in 2014/2015

academic year were purposively selected for this study. Eighty six graduate teachers registered for full time PGDE programme at UJA and one hundred and fifty five graduate teachers registered for PGDE at JRC of the OUSL were taken as sample for this study.

Instruments of data collection

Two types of instruments were used for the data collection namely questionnaire and focus group interview schedules. The use of researcher designed survey questionnaire first identified teachers' perceived factors affecting their participation in PD practices. The questionnaire was of the structured type focused on collecting data on three identified key areas: the background information, factors facilitating their participation in professional development practices and factors inhibiting their participation in professional development practices. Focus group interview then further explored teachers' perceptions on the factors affecting their PD participation. After analyzing the responses from the teachers to the questionnaire survey, follow up questions were developed for further exploring teachers' perceptions upon the factors affect their PD participation. In this study the interview guide for focus group interview was a semi-structured one. The use of interview guide helped the researcher to be clear about the interactions and facilitate the flow of the interview.

The researcher administered 155 questionnaires at OUSL and 86 questionnaires at UJA. Out of these 110 questionnaires at OUSL and 57 questionnaires at UJA were received with responses. Three focus group interviews were conducted in July 2015, where two interviews with OUSL student teachers and one with UJA student teachers for second phase of data collection. Twenty graduate teachers following PGDE at OUSL and ten from UJA were selected for the focus group interview. Responses for the interview were recorded and transcribed.

Analysis

The qualitative data in the questionnaire survey i.e. written responses to the open ended questions about their perceptions of factors affecting their participation in PD practices was handled with the use of quantifying process in which the data were read repeatedly to search for patterns and themes. Data gathered from the focus group interview were analyzed by clarifying the information into categories, themes and dimensions.

Results and discussion

In this part of the study teachers' background information, facilitating and inhibiting factors affecting teachers' participation in PD practices are first presented as followed by a comparison between them. The perceived factors are further discussed and illustrated in detail with the use of quantitative and qualitative data gathered from the questionnaire survey and focus group interviews.

Background information

Demographic items were developed in order to gain further insight on the respondents.

Table I: Background information of teachers.

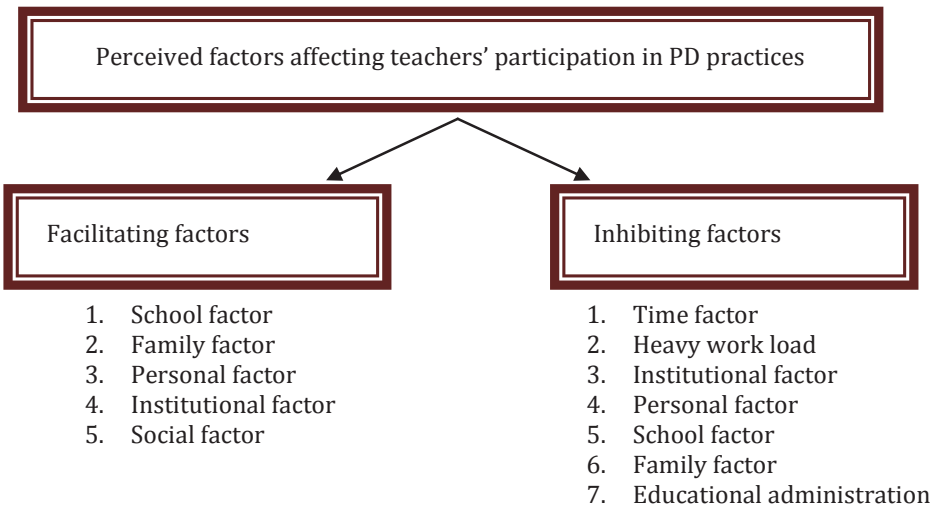
Main characteristics	Sub Group	Institution				Total	
		UJA		OUSL			
		N	%	N	%	N	%
Gender	Male	22	39	47	43	69	41
	Female	35	61	63	57	98	59
Age	20-25	0	0	1	1	1	1
	26-30	0	0	42	38	42	25
	31-35	23	40	44	40	67	40
	36-40	21	37	16	15	37	22
	41-45	10	18	6	5	16	10
	above 45	3	5	1	1	4	2
Experience	1-2	1	2	57	52	58	35
	3-5	3	5	21	19	24	14
	6-10	41	72	28	25	69	41
	11-15	8	14	1	1	9	5
	Above 15	4	7	3	3	7	4
Degree	Arts	38	67	46	42	84	50
	Science	8	14	38	35	46	28
	Commerce	8	14	4	4	12	7
	Fine Arts	3	5	13	12	16	10
	Agriculture	0	0	1	1	1	1
	ICT	0	0	8	7	8	5

Among the participants 59% of the respondents were female (N=98) and 41% were male (N=69). According to the table 26% of the respondents were less than 30 years age. Majority of them (40%) were 30-35 years of age. 22% were between 36-40 years where 12% were over 40 years of age. Comparing to the student teachers from OUSL, those who followed PGDE at UJA were seemed to be elders. All of them were over 30 years, where 39% from OUSL were less than 30 years of age. The results indicated that six to ten years of experience was the most often reported with 69 student teachers (41%), 35% had less than two years' experience while only 9% had more than 10 years' experience. Comparing to OUSL, teachers followed PGDE at UJA were more experienced. For instance 93% of them had more than six years' experience. Where, only 29% at OUSL had the same. But 52% of the student teachers from OUSL had less than two years of teaching experience. The data indicated that the first degree of the majority of the respondents (50%) was Arts. Where 28% had Science and 10% had Fine Arts degrees. 5% of them are ICT graduates. Only one person had Agriculture degree. Comparing to OUSL most of the student teachers from UJA were Arts graduates (67%).

Factors affecting teachers' participation in professional development practices

In this study, teachers' responses about the facilitating and inhibiting factors that affect teachers' participation in PD practices were explored in the questionnaire survey. Participants' responses to the open ended questions were used to identify these factors. [See fig. 1.0]

Fig.1.0 *Teachers' perceived factors affecting their participation in PD practices.*



Five key factors facilitating teachers' participation in PD practices were categorized according to qualitative responses to the questionnaire survey. [See fig. 1.0 & Table 3.0 (a)] They include school factor, family factor, personal factor, institutional factor and social factor.

Meanwhile seven factors inhibiting teachers' participation in PD practices were categorized. They include time, heavy work load, institutional factor, personal factor, school factor, family factor and factors related to educational administration. [See fig. 1.0 & 3.0(b)]

The following table summarizes the examples of statements of teachers related to facilitating factors affecting their participation in PD practices. Table 2.0(a)

Examples of statements related to facilitating factors affect teachers' participation in PD practices in the questionnaire survey.

Facilitating Factors	Examples of statements
1.School factor	"School supported me to follow PGDE"-UJA "Colleagues supported me in teaching practice"-OUSL "School society supported me"-UJA "Support from students"-UJA
2.Family factor	"My family members motivated me to do PGDE"-UJA "Parents helped me to do PGDE"-OUSL
3.Personal factor	"Self motivation to get professional qualifications"-OUSL "Self learning is enhanced"-OUSL "My enthusiasm and interest"-UJA "I have much self-confidence towards my professional

	development"-OUSL
4.Institutional factor	"Lecturer's dedicated service contributed to my studies"-UJA "Library supported for further reading"-UJA "Well organized activity based day schools and assignments contributed a lot for my professional development"-OUSL "Lecturer's brief and clear explanation in day schools"-OUSL "Master teachers' support and guidance during teaching practice"-OUSL "Friendly approach and guidance"-OUSL "Flexibility in the programme"-UJA
5.Social factor	"Support from peers"- OUSL "Support from co-teachers"-UJA "Social need motivated me to do PGDE"-OUSL

Table 2.0(b)

Examples of statements related to inhibiting factors that affect teachers' participation in PD practices in the questionnaire survey.

Facilitating Factors	Examples of statements
1.Time factor	"Difficulties in time management"- OUSL "Time chunk by long journey to school"-OUSL
2.Heavy work load	"Heavy workload at school"-OUSL "Heavy work load due to social responsibilities"-OUSL
3.Institutional factor	"Lack of lecture hall facilities"-UJA "Poor language of course modules"-OUSL "Stress and tension due to assignment submission"-OUSL "Long duration of day schools"-OUSL "Crowded lecture halls"-UJA
4.Personal factor	"health problems, physical or mental illness"-UJA "Unexpected problems-accidents" -OUSL
5.School factor	"Principal's reluctance in giving approval to do PGDE"-UJA "Need to appoint acting teacher and to pay them"-UJA "Additional works provided by the principal"-OUSL ""Co-curricular activities conducted in weekends"-OUSL "Lack of resources at school"-OUSL
6.Family factor	"Fail to attend lectures due to family responsibilities"-UJA "Spend time to look after elder ones in my family"-OUSL
7.Educational administration	"Issues in getting monthly salary"-UJA "Unable to attend day schools as seminars are conducted in weekends"-OUSL "Reluctance in giving study leave for exam"-OUSL "School transfers"-OUSL

Differences and similarities of the factors affecting teachers' participation in PD practices.

Facilitating factors

There were 39 respondents (23.35%) from UJA and 68 respondents (40.71%) from OUSL respectively responded to the survey question related to their perceived factors favorable to PD participation. [See Table 4.0(a)]. Five common themes were emerged according to the views from respondents. They include: school factor, family factor, personal factor, institutional factor and social factor.

Inhibiting factors

A total of 33 teachers (19.7%) from UJA responded to the questions regarding inhibiting factors affecting their PD participation. [See Table 4.0(b)]. There were 24 teachers (14.37%) who did not give any response to the question. For OUSL 52 teachers (31.14%) showed some obstacles towards their PD participation. 58 teachers (34.73%) did not express that they had any obstacles towards PD participation. Seven common themes were emerged according to the views from respondent teachers. These themes included: time, heavy work load, institutional factor, school factor, personal factor, family and educational administration.

Table 3.0 (a) *Frequency of respondents to perceived factors facilitating PD participation*

	UJA (N=57)	OUSL (N=110)	Total No of respondents (%)
	No of respondents (%)	No of respondents (%)	
Responded	39 (23.35%)	68 (40.71%)	107 (64%)
Not responded	18 (10.7%)	42 (25.15%)	60 (35.13%)

Table 3.0 (b) *Frequency of respondents to perceived factors inhibiting PD participation*

	UJA (N=57)	OUSL (N=110)	Total No of respondents (%)
	No of respondents (%)	No of respondents (%)	
Responded	33 (19.7%)	52 (31.14%)	85 (50.8%)
Not responded	24 (14.37%)	58(34.73%)	82 (49.2%)

detailed analysis of the facilitating and inhibiting factors affecting teachers' participation in PD is discussed in the coming sections.

Exploring the factors affecting teachers' participation in PD practices.

Table 4.0 (a)

Frequency of responses to perceived factors facilitating teachers' participation in PD practices by institution

Facilitating Factors	UJA (Total N=57)		OUSL (Total N=110)		Total N=161	
	N	%	N	%	N	%
1.School factor	8	14.0%	21	20.2%	29	18%
2.Family factor	9	15.8%	5	4.8%	14	8.7%
3.Personal factor	5	8.8%	12	11.5%	17	10.5%
4.Institutional factor	26	49.0%	77	73.9%	103	63.9%
5.Social factor	8	14.0%	3	2.9%	11	6.9%

Table 4.0 (b)

Frequency of responses to perceived factors inhibiting teachers' participation in PD practices by institution

Inhibiting Factors	UJA (Total N=57)		OUSL (Total N=104)		Total N=161	
	N	%	N	%	N	%
1.Time factor	3	5.2%	10	9.6%	13	8.06%
2.Heavy work load	0	0%	15	14.4%	15	9.3%
3. Institutional factor	6	31.5%	25	24.0%	31	19.2%
4. Personal factor	3	5.2%	7	6.7%	10	6.2%
5. School factor	10	17.5%	6	5.8%	16	9.9%
6. Family factor	7	12.2%	5	4.8%	12	7.4%
7.Factors related to Educational Administration	10	17.5%	8	7.7%	18	11.2%

Institutional factor

Teachers perceived teacher education institution as an important factor affecting their participation in PD practices. A total of 63.9% of respondent teachers regarded teacher education institution as a factor facilitating teachers' participation in PD practices. One teacher stated that,

"Flexible timetable and friendly environment of our university encourage our participation in the PD programme" (Teacher B, Female, UJA, Focus group interview, 16th July 2015.)

Another teacher also had the same view and expressed

"Kind, friendly and exemplary approaches shown by our lecturers and their useful lectures motivated our participation". (Teacher C, Female, UJA, Focus group interview, 16th July 2015.)

One teacher appreciated the contribution of his teacher education institution in his PD and said:

"Well planned activity based day schools and well organized teaching practice has provided opportunities to improve my leadership qualities, presentation skills, teaching skills and team spirit". (Teacher I, Male, OUSL, Focus group interview, 18th July 2015.)

However 19.2% of the respondents viewed institution as an inhibiting factor for their PD participation. Teachers expressed that they encountered some problems at their institution. One teacher expressed her difficult situation and said,

"We are not provided with appropriate lecture halls. We used available lecture hall for our lectures. That is also small and not enough to accommodate all of us". (Teacher A, Female, UJA, Focus group interview, 16th July 2015.)

Another teacher added,

"University does not provide hostel facilities for us. Our friends from distant places faced difficulties in finding accommodations. Due to this they are unable to attend lectures regularly and eventually dropped out from the programme". (Teacher G, Male, UJA, Focus group interview, 16th July 2015.)

Certain procedures adopted by the teacher education institution are also perceived as obstacles by some teachers. One teacher expressed her situation as follows.

"We faced difficulties in submitting assignments during teaching practice period. We suffered from heavy work load including writing lessons, preparing teaching aids, collecting data for assignments and writing assignments. At this instance I failed to submit some assignments due to time constraints. I hope university should follow a flexible mechanism for assignment submission during teaching practice period." (Teacher P, Female, OUSL, Focus group interview, 18th July 2015.)

These expressions indicated that some teachers perceived teacher education institution as a facilitating factor where some others viewed it as an inhibiting factor for PD participation.

School factor

Among the respondents 18% of the teachers perceived school as a facilitating factor. Where, 9.9% of them viewed it as an inhibiting factor for their PD participation. As summarized from the statements of the respondents in the questionnaire survey, there were two main reasons, by which school supported teachers' PD participation. First, principal and school administration allowed and supported teachers to join PD programmes. Second, school society supported and encouraged teachers to participate in PD practices. The followings are the examples of what teachers told about school as a facilitator for their PD participation.

"School supported me a lot. Principal immediately approved my application for full time PGDE programmme. Some of my colleagues shared my time table and responsibilities during my study leave". (Teacher G, Male, UJA, Focus group interview, 16th July 2015.)

"My school encouraged me to do PGDE, Principal and colleagues supported my teaching practice by allocating suitable classes and providing required resources". (Teacher O, Male, OUSL, Focus group interview, 18th July 2015.)

However, according to the teachers, school factor could be identified as an obstacle for PD participation. There were conflicting views between schools and teachers regarding PD practices. In the questionnaire survey one teacher wrote,

"I hardly find time for preparation for teaching practice at my school. Because, principal gave additional works and responsibilities during this period. I felt tired due to the heavy work load at school" (Teacher-OUSL, written statement in the questionnaire survey).

Some teachers expressed their feelings about principals' support to teachers' professional development as follows

"One of my friend's principal did not sign in his PGDE application form. Then he convinced his principal by promising to appoint an acting teacher from his own money and got signed". (Teacher G, Male, UJA, Focus group interview, 16th July 2015.)

Teachers expected their school should create a favorable and supportive environment for their PD. Some teachers perceived school as a facilitating factor. Where, others view it as an obstacle for their PD. In short, the above may imply that the difference in teachers' perception may rely on principals' leadership and recognition of the importance of PD.

Personal factor

A total of 10.5% (N=17) of the respondent teachers perceived personal factor as one of the major factors contribute to teachers' participation in PD practices. Teachers believed that factors such as self-motivation, enthusiasm and interest could contribute to their PD participation. [See fig. 4.6.1.1(a)] One teacher pointed out that her self -learning was enhanced by the PD programme.

"As I studied the modules by myself, and collected all the materials to prepare my assignments, I belief now I have become a self-regulated learner and this change motivates my participation in PD." (Teacher P, Female, OUSL, Focus group interview, 18th July 2015.)

Another teacher added

"My enthusiasm and interest in learning motivated me to do PGDE. As I am an external graduate I preferred to do my PGDE as a fulltime course". (Teacher B, Female, UJA, Focus group interview, 16th July 2015.)

However, teachers also felt that there lacked balance between personal needs and institutional expectation. On this point one teacher shared her feelings about her participation in PD activities. She expressed her frustrating situation that,

"I always get sick and therefore I found problems in submitting assignments before the due dates. Further, as adults we felt participating in six hours day schools is physically uncomfortable." (Teacher N, Female, OUSL, Focus group interview, 18th July 2015.)

Teachers' engagement in PD practices might rely on both positive personal factors such as teachers' commitment and motivation and negative factors such as personal and health problems.

Family factor

A total of 8.7% (N=14) of the respondents regarded family as a facilitating factor for their participation in PD practices. Teachers viewed that, family support was important in the way that they could be free from burden and pressure in their own families. One teacher concerned that,

"I spent all my time in assignment writing, lesson planning and preparation of teaching aids. Sometimes I faced difficulties to complete my family responsibilities. At such instances my husband shared the works and helped me to continue my studies successfully" (Teacher L, Female, OUSL, Focus group interview, 18th July 2015.)

"My wife always helped me to prepare teaching aids. She carried out all the family responsibilities and let me free to do my studies". (Teacher F, Male, UJA, Focus group interview, 16th July 2015.)

But 7.4% (N=12) of the respondents viewed family as an inhibiting factor for their PD participation. Teachers felt struggled about their family responsibilities and household works. For example the following teacher said,

"Actually my work load is really very heavy, even though I am in study leave, I need to distribute time to my own family. I have to take care of my children and look after my mother in law. So I always feel time is not sufficient and too tired. Sometimes I feel I can't do much in my PGDE to achieve the goals. Sometimes I feel I cannot handle" (Teacher C, Female, UJA, Focus group interview, 16th July 2015.)

It is noted family responsibilities were perceived to be barriers for PD participation of female teachers. It may be probably related to role expectation in the Sri Lankan society. Thus there seems to be a need for teachers a balance between PD and family.

Factors related to educational administration

Among the respondents 11.2% (N=18) of the teachers perceived educational administration as an important factor inhibiting their participation in PD practices. Teachers from UJA and OUSL were concerned about the support of educational administration for their PD. One teacher expressed that,

"Sometimes we missed our day schools as seminars are conducted during weekends and forced us to participate in them" (Teacher O, Male, OUSL, Focus group interview, 18th July 2015.)

Another teacher added,

"Some teachers are transferred during their teaching practice period and teachers faced difficulties in continuing their teaching practice at the new school. Consequently they drop the teaching practice" (Teacher Q, Male, OUSL, Focus group interview, 18th July 2015.)

Teachers expressed their frustration towards educational administration as follows,

"As we are in study leave, Zones are reluctant to pay monthly salary to some of our friends and forced them to submit monthly attendance to get their salary." (Teacher E, Male, UJA, Focus group interview, 16th July 2015.)

However, another teacher argued and said,

"Not all the Zonal Directors behave in this manner, some of them are very supportive" (Teacher G, Male, UJA, Focus group interview, 16th July 2015.)

The above teachers' experiences reflect that support from educational administration varies according to the policies practiced by them.

Further, time and heavy work load also perceived as inhibiting factors by the teachers. From the responses to the questionnaire survey, both heavy work load and time factors are seemingly inter related to each other in affecting teachers' participation in PD practices. Due to

shortage of time and work load at schools, some teachers felt that it was difficult to engage in PD practices.

On the whole, school, educational administration, institution and personal factors are perceived as the major factors affecting teachers' participation in PD practices. Teachers' experiences in PD participation seemed to reflect that there is no sufficient support from school and educational administration in encouraging and motivating teachers to engage in PD practices.

Conclusion and recommendations

This study analyzed quantitative and qualitative data gathered from a researcher designed questionnaire survey and focus group interviews to determine the factors affecting teachers' participation in professional development practices. Regarding teachers' perceptions of factors affecting their PD participation, in this study the facilitating factors were categorized under five themes namely school factor, personal factor, institutional factor, family factor and social factor. Meanwhile, the inhibiting factors were categorized under seven themes namely, time factor, heavy workload, institutional factor, personal factor, school factor, family factor and factors related to educational administration. Teachers perceived teacher education institution as an important factor affecting their participation in PD practices. 63.9% of the respondents perceived it as a facilitating factor where 19.2% of them perceived it as an inhibiting factor. Therefore institutional factor was perceived as the major factor influencing their participation in PD practices. 18% of the respondent teachers perceived school as a major factor facilitating their PD participation, where 9.9% of them identified it as an inhibiting factor. At the same time, 11.2% of the teachers indicated educational administration as an inhibiting factor.

From the findings of the study the following recommendations were made

1. As teachers perceived personal factor as an inhibiting factor, efforts should be made to ensure intrinsic and extrinsic motivation of teachers for professional development participation. Further, student teachers should take the responsibility of their own learning and should keep a balance between their personal and professional roles.

2. Considering the PGDE programme of OUSL, the subject content in the course modules should be enriched and they should be written in clear and easy language style and proper mechanism should be introduced to facilitate and motivate assignment submissions. UJA should improve their infra-structure and physical resources to match with the physical needs of adult learners.

3. Teachers indicated schools, education administration as inhibiting factors for their PD participation. Therefore, teacher education institutions or Universities should work in close collaboration with schools, education administration, community and other teacher education institutions in the country and should take measures to raise awareness on the importance of professional development for teachers among them.

4. Finally, it is emphasized that all stakeholders in teacher education should work in collaboration to facilitate teachers' participation in professional development practices.

References

Banks, J. and Smyth, E.(2010). *Continuous Professional development among Primary teachers in Ireland*, A report compiled by ESRI on behalf of the teaching council of Ireland.

Desimone, L.M.(2009). Improving impact studies of teachers' professional development: Toward better conceptualizations & measures. *Educational Researcher*, 38, 181-200.

Gusky,T.R. and Sparks, D.(1996).Exploring the relationship between staff Development & improvement in student learning. Journal of staff development and improvements in student learning. *Journal of staff development*, 17(4), 34-38.

Harris, R., Simons, M., Hill,D., Smith,E., Pearce,R., Blackeley,J, Choy,s. and Snewin,D. (2001). *The changing role of staff development for teachers and trainees in vocational education & training,* Leabrook, S.A.: National centre for Vocational Education research.

Hatting, A. and de Kock, D.M.(2008). Perceptions of teacher roles in an experience rich teacher education programme. *Innovations in Education& Teaching International*, 45(4), 321-332.

Hustler, D. McNomara, O., Jarvis, J., Londra, M. and Campbell, A. (2003). Teachers' perceptions of Continuing Professional development. Research Report. Institute of education, Manchester Metropolitan University

Ifanti,A. and Fotopoulopou, V.S. (2011). Teachers' perception of professionalism & professional development: A case study in Greece. World Journal of Education.1(1), 40-51. Retrieved from www.sciedu.ca/wje.

Incecay, V. and Bakioglu, A. (2010), Investigating factors affecting teachers' professional learning. The international Journal of Educational researchers, 2(2), pp 14-21. Retrieved from http://ijer.eab.org.tr/1/2/2_incecay.v.pdf.

Kang, H.S., Cha, J. and Ha, B.W.(2013). What should we consider in teachers' professional development impact studies? Based on the conceptual framework of desimone. Scientific Research, 4(4A), 11-18. Retrieved from http://www.scirp.org/journal/ce

Komba, L. and Nkumbi, E.(2008). Teacher professional development in Tanzania: Perceptions & Practices. *Journal of International co operation in education*. 11(3), pp67-83, Hiroshima.

Kwakman, K. (2003). Factors affecting teachers' participation in professional learning activities. *Teaching and Teacher Education, 19*, 149-170.

Merriam,S.B. and Caffarello, R. S. (1999).*Learning in adulthood: A comprehensive guide*, (2nd ed.). San Fransisco:Jossey-Bass. Strangers for too long. *Focus on Basics, 4*(D), 25–26.

Villegas-Reimers, E. (2003). *Teacher professional development: An international review of the literature*. UNESCO: International Institute for Educational Planning, Paris.

Wan, S.W.Y. and Lam, P.H.C. (2010). *Factors affecting teachers' participation in continuing professional development (CPD): From Hong Kong Primary School Teachers' Perspectives.* AERA Annual Meeting -Understanding Complex Ecologies in a Changing World, Denver, Colorado, USA April 30 – May 4, 2010

Wayne, A.J., Yoon, K.S., Zhu,P., Cronen,S. and Garet,M.S. (2008). Experimenting with teacher professional development: Motives and methods, *Educational Researcher*,37, 469-479.

Wilson, B., and Corbett, D. (2001). Adult basic education and professional development:
Yamagata-Lynch,L. and Haudenschild, M.(2010). Using activity theory to identify contradictions & tensions in teacher professional development. Journal of Career & Technical Education, 25(2), 137-153.

Zhao,Y.(2010). Preparing globally competent teachers: A new imperative for teacher education. *Journal of Teacher Education,*. 61(5), 422-431. American Association of College for Teacher Education, Sage Publications.

SKILLS OF LESSON PLANING AND PRACTICES OF PROSPECTIVE TEACHERS (NCOE)

I.S.K. Eriyagama
G/Amarasooriya Teacher Training College
Unawatuna.

Dr. E.R.I. Vitharana
Senior Lecturer
Faculty of Education
University of Peradeniya.

Abstract in English

The main purpose of this study is to examine the components of the Mathematics curriculum to be improved in order to enhance the daily lesson planning skills and practice of the prospective teachers in NCoE. The conceptual framework of the study was developed after reviewing the research literature. Explanatory sequential mixed methods design which consisted of quantitative approach followed by qualitative approach was used in this study. In the quantitative phase data were collected administering a questionnaire to a sample of 280 prospective teachers. A sample of 24 prospective teachers were selected with the use of comparative method used by Gorges (2001) to collect data using participant observation, unstructured interviews and documents in the qualitative phase. Quantitative data were analyzed using Statistical package of Social Sciences (SPSS) while the qualitative data were analyzed using the constant comparative methods of the grounded theory. The responses to the questionnaire revealed that less than 50% agreed that they were given an understanding to organize subject matter in planning lessons. Furthermore 44.4% responded they gained skills to select engagement approaches. It was revealed from the responses to the questionnaire, that the prospective teachers were of the view that they do not get sufficient guidance and understanding on subject matter knowledge, use of diverse teaching methodologies, organizing subject matter, planning activities, use of teaching aids effectively, constructing assessment items and use of group work and to design strategies to motivate the students. Analysis of the content of the present Mathematics curriculum of the NCoE showed that it consisted of only eight competencies related to planning lessons. According to the conceptual framework of the study these competencies are inadequate to strengthen the prospective teachers' ability to design daily lesson plans. Five core categories were identified; introducing methods, meaningful learning opportunities, time management, teaching methods and assessment techniques. According to the conclusions, the study is suggesting to reform Mathematics curriculum of NCoE to improve the daily lesson planning skills of the prospective teachers of the National Colleges of Education.

Key words: Prospective teacher trainees, Daily lesson planning, Mathematical curriculum of NCoE

අධ්‍යාපන විද්‍යාපීඨ ශික්ෂණලාභීන්ගේ දෛනික පාඩම් සැලසුම්කරණ කුසලතා සහ ව්‍යවහාර

අයි.එස්.කේ.ඊරියගම
කථිකාචාර්ය
ගා/අමරසූරිය ගුරු විද්‍යාලය.උණවටුන.

ආචාර්ය ඊ.ආර්.අයි.වීතාරණ
ජ්‍යෙෂ්ඨ කථිකාචාර්ය
අධ්‍යාපනවිද්‍යා අධ්‍යයනාංශය. පේරාදෙණිය විශ්වවිද්‍යාලය.

සංක්ෂිප්තය

අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවෙන් දෛනික පාඩම් සැලසුම් කිරීම සඳහා ලබා දෙන කුසලතා පන්ති කාමරයේ ව්‍යවහාරයට ගන්නා ආකාර විමසා බැලීම අධ්‍යයන අරමුණ විය. ඒ සඳහා ගණිත ගුරුවරුන් සඳහා වූ ගුරු අධ්‍යාපන පාඨමාලාවක දී දෛනික පාඩම් සැලසුම් කිරීමට විෂයමාලා අන්තර්ගතයෙන් ලබාදිය යුතු කුසලතා පිළිබඳ පර්යේෂණ සාහිත්‍යය ඇසුරින් ගොඩනැගූ ආකෘතියක් සංකල්පීය රාමුව ලෙස තෝරා ගන්නා ලදී. වරණීය අනුක්‍රමික මිශ්‍ර ක්‍රම පර්යේෂණ පිරිසැලැස්ම අනුගමනය කරමින් ප්‍රමාණාත්මක හා ගුණාත්මක ප්‍රවේශ යටතේ දත්ත ලබා ගන්නා ලදී. ප්‍රමාණාත්මක ප්‍රවේශයේ දී සමීක්ෂණ අධ්‍යයනය තුළ ප්‍රශ්නාවලියකින් දත්ත රැස් කිරීමට ශ්‍රී ලංකාවේ ගණිත පාඨමාලා පැවැත්වෙන ප්‍රධාන විද්‍යාපීඨ තුනක ශික්ෂණලාභීන් 280ක නියැදියක් තෝරා ගන්නා ලදී. අනාවරණවලට අනුව අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවෙන් එක් එක් කාලච්ඡේදවලට ප්‍රමාණවත් විෂය කරුණු තෝරාගැනීම සහ තිරස් - සිරස් සම්බන්ධතා අනුව පාඩම සංවිධානය කිරීමට ප්‍රමාණවත් කුසලතා ලබා දෙන බවට ශික්ෂණලාභීන්ගෙන් 50% කටත් වඩා එකඟ විය. සුදුසු ඉගැන්වීම් ක්‍රම තෝරා ගැනීම හා පාඩමේ ආරම්භය සඳහා පිවිසීම් ක්‍රම යොදා ගැනීම පිළිබඳ ප්‍රමාණවත් කුසලතා ලබා දෙන බව එකඟ වූයේ 50%ට අඩු ප්‍රතිශත වලිනි. ගුණාත්මක ප්‍රවේශයේ දී ජර්ගෙස් (Gerges, 2001) නියැදීම් ක්‍රම අනුගමනය කරමින් ශික්ෂණලාභීන් 24 දෙනෙකු තෝරා ගෙන ඔවුන්ගේ පාඩම් නිරීක්ෂණයෙන් දත්ත ලබා ගන්නා ලදී. භූමීගත න්‍යාය (Grounded Theory) අනුව දත්ත විශ්ලේෂණය කර හර ප්‍රවර්ග පහක් හඳුනා ගන්නා ලදී. ඒ ඔස්සේ අධ්‍යාපන විද්‍යාපීඨ ශික්ෂණලාභීන්ගේ පන්ති කාමර ඉගෙනුම් ඉගැන්වීම් ක්‍රියාවලිය සාර්ථක කර ගැනීමට, ගණිත සංකල්ප නිවැරදි ලෙස සාධනය වන ලෙස දෛනික පාඩම් සැලසුම් පිළියෙල කිරීමට අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාව ප්‍රතිසංස්කරණය කිරීමට යෝජනා ඉදිරිපත් කෙරිණි.

මූලික සංකල්ප- අධ්‍යාපන විද්‍යාපීඨ ශික්ෂණලාභීන්, දෛනික පාඩම් සැලසුම්කරණය, අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාව

හැඳින්වීම

විසිවක් වන සියවසේ ගුරු අධ්‍යාපනයේ ප්‍රවණතා අනුව, ගුරු භූමිකාවේ නිරතවන්නන් සිය භූමිකාවේ වගකීම් හා කාර්යභාරය නිවැරදි ලෙස හඳුනා ගැනීමට ගුරු පුහුණුවක් අනිවාර්යයෙන් ලබා තිබිය යුතු ය. 1981 අධ්‍යාපන ධවල පත්‍රිකාව අනුව පාසල්වල සියලූ ගුරුවරුන් වෘත්තීය පුහුණුවක් ලබා තිබිය යුතු ය. ඒ අනුව සේවයට යාමට පෙර, ගුරු පුහුණුව ලැබීමේ අවශ්‍යතා මත ස්ථාපිත පූර්ව සේවා ගුරු පුහුණු ආයතනයක් ලෙස, අධ්‍යාපන විද්‍යාපීඨවල කාර්යභාරය අවධානය කිරීම කාලෝචිත ය.

අධ්‍යාපන විද්‍යාපීඨ පාඨමාලා කාලය වර්ෂ තුනකි. මුල් වර්ෂ දෙකේ දී, ශාස්ත්‍රීය විෂයමාලාවක් සහ වෘත්තීය විෂයමාලාවක් ක්‍රියාත්මක කෙරේ. ශාස්ත්‍රීය විෂයමාලාවෙන් කනිෂ්ඨ ද්විතීයික අංශයේ පාසල් විෂයමාලාවට සමගාමී සුවිශේෂී වූ විෂයයන් ඉගැන්වීමට අවශ්‍ය විෂය දැනුම සහ එම දැනුම පාසල් සිසුන්ට ලබා දීමට හැකිවන අයුරින් සංවිධානය කිරීම සඳහා දෙනික ව පාඩම් සැලසුම් කිරීමේ කුසලතා ශික්ෂණලාභීන්ට ලබා දීමට අපේක්ෂා කෙරේ. මෙසේ ලබා ගත් කුසලතා ඇසුරින්, සුවිශේෂී වූ විෂයයන් ඉගැන්වීමට යෝග්‍ය වූ දෛනික පාඩම් සැලසුම් පිළියෙල කිරීම සහ ඒවා පන්ති කාමරයේ ව්‍යවහාරයට ගැනීම මූලික ගුරු පුහුණු වටවල දී සහ අධ්‍යාපන විද්‍යාපීඨ තෙවන වසර වන, සීමාවාසි කාලයේ දී සිදු කෙරේ. සීමාවාසි කාලය අධ්‍යාපන විද්‍යාපීඨ පාඨමාලාවේ අවසන් වසර වන බැවින් ශික්ෂණලාභීන් විසින් මුල් වර්ෂ දෙකේ දී දෛනික පාඩම් සැලසුම් කිරීම පිළිබඳ හදාරනු ලැබූ න්‍යායික දැනුම ඉතා හොඳින් ව්‍යවහාරයට ගත යුතු ය.

පර්යේෂිකාව අධ්‍යාපන විද්‍යාපීඨ ගණිත කථිකාචාර්යවරියක ලෙස වසර දහයක් සේවය කිරීමෙන් ලත් අත්දැකීම් ඔස්සේ ශික්ෂණලාභීන්ගේ දෛනික පාඩම් සැලසුම් කිරීමේ කුසලතා මූලික ගුරු පුහුණු වටවලට වඩා සීමාවාසි කාලයේ දී සාර්ථක නොවන බව හඳුනා ගෙන ඇත (ගුරු පුහුණු ලකුණු වාර්තා, 2011). එසේ ම අධ්‍යාපන විද්‍යාපීඨ පිළිබඳ සාහිත්‍යය විමර්ශනයේ දී බලදොර (1997) හා වික්‍රමසිංහ (2004) විසින් ප්‍රායෝගික ඉගැන්වීම (Teaching Practice) පිළිබඳ කරන ලද අධ්‍යයනවලින් ද ශික්ෂණලාභීන් අධ්‍යාපන විද්‍යාපීඨ විෂයමාලාව හැදෑරීමෙන් ලබා ගන්නා ප්‍රායෝගික ඉගැන්වීම පිළිබඳ කුසලතා, පාඨමාලා අවසානයේ දී අපේක්ෂා කරන ප්‍රාප්ති මට්ටම් කරා ළඟා නොවන බව පෙන්වා දී ඇත. මේ සඳහා අධ්‍යාපන විද්‍යාපීඨ කාර්යභාරය තුළ ගණිත විෂයමාලාවෙන් දෛනික පාඩම් සැලසුම් පිළියෙල කිරීම සඳහා ලබාදෙන කුසලතා ප්‍රමාණවත් නොවීම හේතු විය හැකි ය. එබැවින් මෙම අධ්‍යයනය, අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවෙන් දෛනික පාඩම් සැලසුම් කිරීම සඳහා ලබාදෙන කුසලතා සහ ඒවා පන්ති කාමරයේ ශික්ෂණලාභීන් විසින් ව්‍යවහාරයට ගන්නා ආකාර විමසා බැලීම සඳහා සිදු කරන ලදී.

ශික්ෂණලාභී ගුරුවරුන්ගේ අධ්‍යයන ව්‍යවහාර පිළිබඳ දේශීය මෙන් ම විදේශීය සාහිත්‍ය ගොඩනැඟී තිබුණ ද, ගණිතය ඉගැන්වීම් සඳහා දෛනික පාඩම් සැලසුම්කරණය හා එහි ව්‍යවහාර පිළිබඳ සුවිශේෂී ලෙස සිදු කෙරුණු පර්යේෂණ සීමාසහිත විය. මෙම ඌනතාව පිරවීම සඳහා ශ්‍රී ලාංකික සන්දර්භයේ පූර්ව සේවා ගුරු අධ්‍යාපන ආයතනයක් ලෙස අධ්‍යාපන විද්‍යාපීඨවලින් ගණිත ගුරුවරුන් බිහි කිරීමේ අභිප්‍රාය පාදක ව අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාව සහ එය ප්‍රගුණ කිරීමේ දී ශික්ෂණලාභීන් කුසලතා ලබා ගන්නා ආකාරය පිළිබඳ විමර්ශනය කිරීම වැදගත් වේ.

පර්යේෂණ සාහිත්‍යය

ගණිත ගුරුවරුන් වීමේ අරමුණින් යුතු ඉගෙනුම ලබන්නන්ගේ පූර්ව සේවා ගුරු පුහුණුවේ න්‍යායාත්මක උපාංග (Components) පිළිබඳ කොරියාවේ ලී (Lee, 2000) කළ අධ්‍යයනයේ දී, පුහුණුවන ගුරුවරුන්ගෙන් 72% ගණිත දැනුම සාම්ප්‍රදායික රාමුවක හසුරවන බව අනාවරණය කර ඇත. දෛනික සූදානම් වීමේ සටහනක් ලිවීමේ දී, ඔවුන් **සතු** ඉගෙනුම් ශාස්ත්‍රීය දැනුම, ගුරු පුහුණුවේ ව්‍යුහය හා ඔවුන්ගේ විශ්වාස බලපෑම් කරන සාධක ලෙස හඳුනා ගෙන තිබිණි. ඩෙවිසන් හා මෙතනි (Davison and Metheny, 1995) පූර්ව සේවා ගුරුවරුන් නියැදියකින් පන්ති කාමරයේ සිසුන්ගේ ස්වයං ඉගෙනුම් අවස්ථා මතු කරමින් පාඩම් සැලසුම් කිරීමෙන් ගණිත විෂයයේ ඉගෙනුම් ඵල වැඩි දියුණු වන බව අනාවරණය කර ඇත. ඒ අනුව ස්වයං ඉගෙනුම් අවස්ථා ඇති කරමින් පාඩම් සැලසුම් පිළියෙල කිරීමේ ප්‍රවණතා ඉහළ ගණිත සාධනයක් ඇති කිරීමට හේතු වන බව ඔවුන් පෙන්වා දී ඇත.

පූර්ව සේවා ගුරුවරුන්ගේ ගණිතය ඉගැන්වීම හා පාඩම් සැලසුම් කිරීම් පිළිබඳ ජර්ගෙස් (Gerges, 2001) කළ අධ්‍යයනයේ දී පූර්ව සේවා ගුරුවරුන්ගේ ඵලදායීතාව හා ඔවුන්ගේ ඉගැන්වීම් ක්‍රම අතර පවතින සහසම්බන්ධතා විමසා බලා තිබේ. එහි දී පූර්ව සේවා ගුරුවරුන් පන්ති කළමනාකරණයට පහසු ඉගැන්වීම් ක්‍රම තෝරා ගැනීමට යොමු වන බව අනාවරණය කර ඇත. අස්නර් (Azanr, 2004) විසින් පන්ති කාමරයේ ගණිත සංකල්ප ඉගැන්වීමේ දී ඉතා සුක්ෂම ලෙස යොදා ගැනෙන ප්‍රශ්නකරණය, උදාහරණ සැපයීම සහ පෙර දැනුම නව දැනුම සමඟ සම්බන්ධ කිරීම යන සාධක නිවැරදි සංකල්ප ගොඩනැගීමට හේතුවන උපාය බව පෙන්වා දී ඇත. කැග්ලර් (Caglar, 1999) කිසියම් සංකල්පයක් තහවුරු කිරීමට යෝග්‍ය වන උදාහරණ සහ ප්‍රති උදාහරණ සැපයිය යුතු බව අවධාරණය කර තිබේ. පාඩමක් අවසානයේ පන්ති කාමරයේ සිටින සිසුන් අපේක්ෂා කළ ආකාරයෙන් අරමුණු වෙත ළඟා වූ ආකාර විමසා බැලීම සඳහා ඇගයීම් ක්‍රමයක් වශයෙන් රියුබ්රික් (Reubric) භාවිතයට යොමු කිරීම, පර්කි (Parkay, 2003) වැදගත් කොට සලකයි. ඒ මගින් පාසල් සිසුන් පාඩම අවසානයේ ඉලක්ක වෙත ළඟා වූ ආකාර සුවිශේෂී නිර්ණායක ඔස්සේ තරා කිරීමකට ලක් කෙරේ. එබැවින් පූර්ව සේවා ගුරුවරුන්ගේ පුහුණු පාඨමාලාවල දී රියුබ්රික් (Reubric) භාවිතය පිළිබඳ දැනුම ලබා දීමේ අවශ්‍යතා ඔහු අවධාරණය කර ඇත.

පර්යේෂණ සාහිත්‍යය ඇසුරින් දෛනික පාඩම් සැලසුම් පිළියෙල කිරීමේ කුසලතා ඇති කිරීමට යෝග්‍ය වන අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවක සංකල්පීය සංයුතියක් (Conceptual Framework) පර්යේෂිකාව විසින් ගොඩනගන ලදී. එය පදනම් ව අනුකූල ව, අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවෙන් ලබා දෙන දෛනික පාඩම් සැලසුම්කරණ කුසලතා, පන්ති කාමරයේ ව්‍යවහාර කරන ආකාර විමසා බැලීමේ අභිප්‍රායයෙන් මෙම පර්යේෂණය දියත් කරන ලදී.

පර්යේෂණ ක්‍රමවේදය

අධ්‍යයනය මෙහෙයවනු ලැබුවේ ප්‍රමාණාත්මක හා ගුණාත්මක දත්ත ලබා ගැනීමේ අදියර දෙකකින් යුතු මිශ්‍ර පර්යේෂණ ක්‍රමවේදය (Mixed Methods) යටතේ විවරණීය අනුක්‍රමික මිශ්‍ර පර්යේෂණ පිරිසැලසුම් (Explanatory Mixed Methods) ක්‍රමය අනුවයි. එහි දී දත්ත ලබා ගැනීම සඳහා ප්‍රශ්නාවලි, සහභාගිත්ව නිරීක්ෂණය (Participant as observation), ලේඛන ගත දත්ත සහ ව්‍යූහගත නොවන සම්මුඛ සාකච්ඡා යොදා ගන්නා ලදී.

මෙම පර්යේෂණයේ සුවිශේෂී අරමුණු හතරකි. ඒවා නම්,

- අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවෙන් දෛනික පාඩම් සැලසුම් පිළියෙල කිරීම සඳහා ලබා දෙන කුසලතා හඳුනා ගැනීම.
- දෛනික පාඩම් සැලසුම් පිළියෙල කිරීම සඳහා කුසලතා ලබා දෙන ආකාර පිළිබඳ ශික්ෂණලාභීන්ගේ සංජානනයේ ස්වභාවය විමසා බැලීම.
- අධ්‍යාපන විද්‍යාපීඨ ශික්ෂණලාභීන් විසින් දෛනික පාඩම් සැලසුම්කරණ කුසලතා සීමාවාසි කාලයේ දී ව්‍යවහාරයට ගන්නා ආකාර විමසා බැලීම.
- අධ්‍යාපන විද්‍යාපීඨ ශික්ෂණලාභීන්ගේ දෛනික පාඩම් සැලසුම්කරණ කුසලතා සංවර්ධනය කිරීම උදෙසා ගණිත විෂයමලාවේ අංග ප්‍රතිසංස්කරණය කිරීමට යෝජනා ඉදිරිපත් කිරීම.

අරමුණු ඉටු කර ගැනීම සඳහා 1 වන වගුවෙහි දැක්වෙන පරිදි 2011 වර්ෂයේ දී සීමාවාසි ගුරු පුහුණුවේ නිරත වූ අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාව හැදෑරූ සියලු ශික්ෂණලාභීන් නියැදිය ලෙස තෝරා ගන්නා ලදී.

1වන වගුව : දත්ත ලබා ගත් නියැදිය

අධ්‍යාපන විද්‍යාපීඨය	ශික්ෂණලාභීන් ගණන
සියනෑ	145
නිල්වලා	110
ශ්‍රීපාද	025
එකතුව	**280**

දත්ත ලබා ගැනීම සහ විශ්ලේෂණය

පළමු අරමුණ වන ගණිත විෂයමාලාවෙන් දෛනික පාඩම් සැලසුම් පිළියෙල කිරීම සඳහා ලබා දෙන කුසලතා හඳුනා ගැනීම සඳහා අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාව ගුණාත්මක ලෙස විශ්ලේෂණය කරන ලදී. 2011 වර්ෂයේ සමස්ත අධ්‍යාපන විද්‍යාපීඨවල ගණිත විෂයමාලාව හදෑරූ සියලු ශික්ෂණලාභීන් (280) වෙත යොමු කරන ලද ප්‍රශ්නාවලියක් භාවිතයෙන් අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවෙන් දෛනික පාඩම් සැලසුම් පිළියෙල කිරීම සඳහා ලබා දෙන කුසලතා පිළිබඳ ශික්ෂණලාභීන්ගේ සංජානනයේ ස්වභාවය ප්‍රමාණාත්මක ව විමසා බලන ලදී. එහි දී ලබා ගත් දත්ත සංඛ්‍යා විද්‍යාත්මක විශ්ලේෂණ ක්‍රමයක් වන SPSS පැකේජයෙන් විශ්ලේෂණය කරන ලදී. ප්‍රශ්නාවලියේ 11 වන කොටස සඳහා ලබා ගත් ලකුණු සහ අධ්‍යාපන විද්‍යාපීඨයේ මුල් වර්ෂ දෙක තුළ ශික්ෂණලාභීන් ලබා ගත් මුලික ගුරු පුහුණු (Block Teaching) ලකුණු අනුව ජගෙස් (Gerges, 2001) විසින් අනුගමනය කළ ස්තර ගත කිරීම් භාවිතයෙන්, පර්යේෂණයේ ගුණාත්මක අදියරේ දී දත්ත ලබා ගැනීම සඳහා සීමාවාසික ගුරු පුහුණුව ලැබූ ශික්ෂණලාභීන් 24 දෙනෙකු නියැදිය ලෙස තෝරා ගන්නා ලදී. දත්ත ලබා ගැනීමේ ප්‍රධාන ක්‍රම ශිල්පය ලෙස සහභාගිත්ව නිරීක්ෂණය (Participant Observation) යොදා ගනු ලැබීය. පාඩම් 72ක් ඇසුරින් ලබා ගත් ගුණාත්මක දත්ත භූමිගත න්‍යාය (Grounded theory) යටතේ ග්ලේසර් හා ස්ට්‍රවුස් (Glaser and Strauss, 1967) දක්වා ඇති නියත සැසඳුම් ක්‍රමයේ (Constant Comparative Method) පියවර අනුව යමින් විශ්ලේෂණය කරන ලදී.

පර්යේෂණ අනාවරණ

අධ්‍යාපන විද්‍යාපීඨ වල ක්‍රියාත්මක කෙරෙන ගණිත විෂයමාලාවේ අන්තර්ගත නිපුණතා විසිවකෙන් පහත සඳහන් නිපුණතා අට (8/21) පමණක් දෙනික පාඩම් සැලසුම් පිළියෙල කිරීමේ කුසලතා ලබා දීමේ අපේක්ෂණ සඳහා වෙන් විය.

- 6 වන ශ්‍රේණියට ඇතුළත් වන ශිෂ්‍යයකුට අවශ්‍ය ප්‍රවේශ නිපුණතා හඳුනා ගැනීමට ප්‍රාථමික ගණිත විෂයමාලාව විශ්ලේෂණය කිරීම.
- 6 ශ්‍රේණියේ සිට 11 ශ්‍රේණිය දක්වා පාසලේ ගණිත විෂයමාලාවේ ව්‍යුහය විශ්ලේෂණය කිරීම.
- ඉගෙනුම් ඉගැන්වීම් කාර්යය පහසු කිරීම සඳහා 6 ශ්‍රේණියේ සිට 11 ශ්‍රේණිය දක්වා පාසලේ ගණිත විෂයමාලාව තිරස් හා සිරස් සමෝධානය කිරීම.
- ගණිතය ඉගෙනීම සහ ඉගැන්වීම් සඳහා ඉලක්ක සුදානම් කිරීම.
- 6 ශ්‍රේණියේ සිට 11 ශ්‍රේණිය දක්වා පාසලේ ගණිත විෂයමාලාව ඉගෙනීම සහ ඉගැන්වීම් සඳහා උචිත ක්‍රමවේද වර්ධනය කිරීම.
- ගණිතය ඉගැන්වීම් පහසු කරවීම සඳහා ගුණාත්මක යෙදවුම් භාවිත කිරීම.
- ගණිතය ඉගෙනීම සහ ඉගැන්වීම් සඳහා ක්‍රියාකාරී සැලසුම් වර්ධනය කිරීම.
- අඛණ්ඩ තක්සේරුව සහ ඇගයීම් මගින් ශිෂ්‍යයින්ගේ අපේක්ෂිත ප්‍රවීණතා මට්ටම් සහතික කිරීම.

එහෙත් මෙම පර්යේෂණයේ සංකල්පීය රාමුවට අනුකූල මෙම නිපුණතා අට පමණක්, ගණිත ගුරුවරුන් පුහුණු කෙරෙන ගුරු පුහුණු පාඨමාලාවකින් දෙනික ව පාඩම් සැලසුම් කිරීමේ කුසලතා ලබා දීමට ප්‍රමාණවත් නැත. සංකල්පීය රාමුවේ සඳහන් වන ඉගෙනුම් හැකියා හා ප්‍රජානන හැකියා වර්ධනයට සුදුසු ක්‍රියාකාරකම් තැනීම, ක්‍රියාකාරකම් අනුක්‍රමය ඉගෙනුම් ද්‍රව්‍ය සමඟ සම්බන්ධ කිරීම, ජීවිත අත්දැකීම් පාඩමට සම්බන්ධ කිරීම, විවිධ පැතිකඩ ඔස්සේ ගණිත සංකල්ප ගොඩ නැගීම සහ ගණිත ගැටලු විසඳීමට ඉගැන්වීම් ක්‍රම යොදා ගැනීම, සහයෝගි ඉගෙනුම ඇති කිරීමට ප්‍රතිදාහරණ (Counter Example) සහ යෝග්‍ය උදාහරණ සැපයීම, ප්‍රශ්නකරණය යෝග්‍ය ලෙස භාවිත කිරීම, ගණිතය ඉගෙනීමේ දී සිසුන්ගේ ප්‍රජානන සහ ඉගෙනුම් දක්ෂතා මැන බැලීමට යෝග්‍ය ඇගයීම් උපකරණ, රියුබ්රික් (Rreubric) තැනීම සහ ගණිතමය පාරිභාෂිත වචන භාවිතය යන කුසලතා ලබා දීම සඳහා 2010 අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමලාවේ ඇති අවධාරණය ප්‍රමාණවත් නැත.

ප්‍රශ්නාවලියෙන් ලබා ගත් දත්ත විශ්ලේෂණයෙන් අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාව මගින් දෙනික පාඩම් සැලසුම් කිරීමේ කුසලතා ලැබෙන ආකාර පිළිබඳ ශික්ෂණලාභීන්ගේ සංජානන විමසා බැලීමේ දී, 6 වන ශ්‍රේණියේ සිට 11 වන ශ්‍රේණිය දක්වා පාසල් විෂයමාලාවේ අන්තර්ගත ගණිත සංකල්ප හා බැඳි විෂය කරුණු පිළිබඳ යාවත්කාලීන වූ දැනුමක් නොලැබෙන බව ශික්ෂණලාභීන්ගෙන් 57.8% දෙනෙක් ප්‍රකාශ කර සිටියහ. පාඩමක් සැලසුම් කිරීමේ දී එක් එක් ශ්‍රේණියට අදාළ විෂය කරුණු සංවිධානය කර ගැනීම සඳහා කුසලතා ලබා දෙන බවට එකඟත්වය ප්‍රකාශ කර ඇත්තේ 50%කටත් වඩා අඩු ප්‍රතිශතයකි. අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවෙන් දෙනික පාඩම් සැලසුම් පිළියෙල කිරීම සඳහා ක්‍රියාකාරකම් තැනීමට ශික්ෂණලාභීන්ට තනි තනි මග පෙන්වන ආකාරය පිළිබඳ සියලු ශික්ෂණලාභීන් ගෙන් 39.2% ක් පමණක් එකඟ විය. එසේ ම ගුණාත්මක යෙදවුම් තැනීම සහ භාවිතය සඳහා ලැබෙන කුසලතා ප්‍රමාණවත් වන බවට 56.1%ක් එකඟ වූහ. ගුණාත්මක යෙදවුම්, ඉගෙනුම් ආධාරක තැනීමේ කුසලතා වර්ධනය කිරීමට අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවේ ක්‍රියාකාරිත්වය තුළ වැඩමුළු සංවිධානය කිරීම පිළිබඳ එකඟ වූයේ 50.3% ක ප්‍රමාණයකි. ප්‍රශ්නකරණය භාවිත කිරීමේ කුසලතා වර්ධනය කරන බවට ශික්ෂණලාභීන්ගෙන් 39.2% පමණක් එකඟ වූහ. නියුක්තිකරණ ප්‍රවේශ තෝරා ගැනීමේ කුසලතා ලබා දීම පිළිබඳ අධ්‍යාපන විද්‍යාපීඨවල ශික්ෂණලාභීන්ගේ සංජානනය වූයේ 44.4% ක ප්‍රමාණයකින් පමණක් වීය සිටුවන බවයි. දෙනික පාඩම් සැලසුම් කිරීම සඳහා ඇගයීම් වනු තැනීම සහ තක්සේරුකරණය පිළිබඳ ලබා දෙන අවබෝධය ප්‍රමාණවත් වන බවට එකඟ වූයේ ශික්ෂණලාභීන්ගෙන් 28.%ක් පමණි. ශික්ෂණලාභීන්ගේ සංජානනය අනුව කාල කළමනාකරණය කර ගැනීමේ කුසලතා ලැබෙන බවට 54.1%ක් පමණක් එකඟ වූහ.

අධ්‍යයනයේ දී ගුණාත්මක ප්‍රවේශය යටතේ අධ්‍යාපන විද්‍යාපීඨවල ශික්ෂණලාභීන් විසින් දෙනික පාඩම් සැලසුම්කරණ කුසලතා සීමාවාසි කාලයේ දී ව්‍යවහාරයට ගන්නා ආකාර විමසා බලන ලදී. ලබා ගත් දත්ත ඇසුරෙන් භූමිගත න්‍යායයේ නියත සැසඳුම් විශ්ලේෂණයෙන්, ප්‍රධාන හර ප්‍රවර්ග පහක් හඳුනා ගන්නා ලදී. ඒවා නම් පිවිසීම් ක්‍රමවලින් සිසු අවධානය ලබා ගැනීම, ගණිත සංකල්ප සාධනයට අර්ථවත් ඉගෙනුම් අවස්ථා ඇති කිරීම, විවිධ ඉගැන්වීම් ක්‍රම භාවිත කිරීම, ඇගයීම සහ ප්‍රතිපෝෂණ වැඩසටහන් ක්‍රියාත්මක කිරීම සහ කාල කළමනාකරණය සඳහා උපාය මාර්ග භාවිත කිරීම යන ඒවායි.

ශික්ෂණලාභී ගුරුවරුන් විසින් විවිධ වූ පිවිසීම් ක්‍රම භාවිත කරනු ලැබුව ද, ඒවා අපේක්ෂා කළ ආකාරයෙන් සාර්ථක නොවීමට හේතු ලෙස, පාඩමට පිවිසීම සඳහා වැඩි කාලයක් ගත කිරීම, පන්ති කාමරයේ ව්‍යවහාර කිරීමේ දී අවස්ථානුකූල නොවීම, ගණිතය ඉගැන්වීම සඳහා සුවිශේෂී නොවීම, පිවිසීම හා පාඩම අතර සෘජු සම්බන්ධයක් ඇති කිරීමට උත්සහා නොගැනීම සහ නිර්මාණශීලි නොවීම යන සාධක හඳුනා ගන්නා ලදී. පාඩමේ නියුක්තිකරණ පියවරේ දී පිවිසීමේ ප්‍රවේශ තෝරා ගැනීමේ දී පාඩම වෙත සිසු අවධානය යොමු කර ගැනීම සඳහා සිසුන් තුළ පවතින අදහස් සමග කටයුතු කරමින්, පාඩමට යෝග්‍ය ආකාරයෙන් සුවිශේෂී ලෙස, කෙටි කාලයක් තුළ ක්‍රියාත්මක කළ හැකි පිවිසීම් ප්‍රවේශ සැලසුම් කිරීමේ කුසලතා ප්‍රමාණවත් තරම් අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවෙන් ශික්ෂණලාභීන් තුළ වර්ධනය කර නොමැති බව ද අනාවරණය විය.

තව ද පෙර දැනුම සහ ජීවිත අත්දැකීම් සමඟ නව දැනුම සම්බන්ධ කරමින් සිදු කරනු ලබන ක්‍රියාකාරකම් ඇසුරින් ගුරු සිසු සාකච්ඡා අර්ථවත් ව මෙහෙයවීමට ප්‍රශ්නකරණය ඉතා වැදගත් සාධකයක් බව පැහැදිලි විය. අධ්‍යාපන විද්‍යාපීඨ ශික්ෂණලාභීන් විසින් පිළියෙල කළ දෙනික පාඩම් සැලසුම් පන්ති කාමරවල ව්‍යවහාර කිරීමේ දී ඔවුන් දියත් කළ ක්‍රියාකාරකම්වල ස්වභාවය අනුව අර්ථවත් ඉගෙනුම් අවස්ථා ඇති කිරීමට යෝග්‍ය නො වූ ක්‍රියාකාරකම් ද, යෝග්‍ය වූ ක්‍රියාකාරකම් ද හඳුනා ගත හැකි විය. සාවද්‍ය සංකල්ප බිහි නොවන අයුරින් පාඩමේ අරමුණු ඉටු කර ගැනීමට සුදුසු වන නිර්මාණශීලී ක්‍රියාකාරකම් අර්ථවත් ඉගෙනුම් අවස්ථා ඇති කිරීමට හේතු වන බව අනාවරණය විය. තව ද ගුරුවරයා සතු ගණිත සංකල්ප පිළිබඳ නිවැරදි අවබෝධය සහ පන්ති කාමරයේ දී යෝග්‍ය ඉගැන්වීම් ක්‍රම භාවිතයෙන් සමෝධානිත ඉගෙනුම් අවස්ථා ඇති කිරීම සහ සිසුන් තුළ නිවැරදි ගණිත සංකල්ප ගොඩ නැගීමට නිවැරදි පාරිභාෂික වචන භාවිතය, පරිසරය හා බැඳි පිවිත අත්දැකීම් පිළිබඳ ප්‍රශ්නකරණය යොදා ගැනීම යන ඒවා සාර්ථක ප්‍රතිඵල ලබා දෙන බව නිගමනය කළ හැකි විය.

පූර්ව සූදානමක් සහිත ව පාඩමක් අවසානයේ පන්ති කාමරයේ සිසුන්ගේ සාධනය මැන බැලීමට ඇගයීම් පිළියෙල කර තිබුණ ද පූර්වල කාල කළමනාකරණය නිසා ඒවා පන්තිකාමරයේ ක්‍රියාත්මක කිරීමට අධ්‍යාපන විද්‍යාපීඨ ශික්ෂණලාභීන්ගෙන් 87% දෙනෙක් අසමත් වූහ. එසේ ම ප්‍රතිපෝෂණ වැඩසටහන් ද ක්‍රියාත්මක නොවීය. සිසුන්ගේ ප්‍රාප්ති මට්ටම් හඳුනා ගැනීමට රියුබ්රික් (Reubric) ක්‍රමද භාවිත නොවීය.

නිගමන හා යෝජනා

හර ප්‍රවර්ග පහ යටතේ ශික්ෂණලාභීන්ගේ දෙනික පාඩම් සැලසුම්කරණ කුසලතා සීමාවාසි කාලයේ දී ව්‍යවහාරයට ගත් ආකාර සහ ප්‍රශ්නාවලියෙන් අනාවරණය වූ ශික්ෂණලාභීන්ගේ සංජානන අනුව අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාව මඟින් දෙනික පාඩම් සැලසුම් කිරීම සඳහා ලබා දෙන කුසලතා ප්‍රමාණවත් නොවන බව නිගමනය කළ හැකි විය. ගණිත සංකල්ප හා බැඳි විෂය කරුණු පිළිබඳ යාවත්කාලීන වූ දැනුමක් ලබා දීම, ඉගැන්වීම් ක්‍රම, ගුණාත්මක යෙදවුම් සහ ක්‍රියාකාරකම් තැනීමට ලැබෙන මඟපෙන්වීම, නියුක්තිකරණ ප්‍රවේශ පිළිබඳ කුසලතා ලබා දීම, ප්‍රශ්නකරණය යෝග්‍ය ලෙස යොදා ගැනීම, කාල කළමනාකරණය, ඇගයීම් වනු තැනීම සහ තක්සේරුකරණය යන සාධක පිළිබඳ අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂය මාලාවෙන් ලබා දෙන මඟපෙන්වීම ප්‍රමාණවත් නොවීම, ශික්ෂණලාභීන්ගේ දෙනික පාඩම් සැලසුම්කරණ කුසලතා සාර්ථක නොවීමට හේතු විය. එබැවින් දැනට ක්‍රියතේමක අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමලාව තවදුරටත් දෙනික පාඩම් සැලසුම් කිරීමේ කුසලතා ලබා දෙන අයුරින් ප්‍රතිසංස්කරණය විය යුතු ය.

යෝජනා

* ගණිත විෂයයේ සුවිශේෂිභාවය අනුව එක් එක් ගණිත සංකල්ප සුවිශේෂී කර ගත් පාඩම්වල දී යොදා ගත හැකි පිවිසීම් ක්‍රම පිළිබඳ ප්‍රායෝගික කුසලතා ලබා දෙන නිපුණතා විෂයමාලාවේ අන්තර්ගත කළ යුතු ය.

* නව තාක්ෂණය භාවිතය සහ පන්ති කාමරයේ සිටින ශිෂ්‍ය ස්වභාවය අනුව ඉගැන්වීම් ක්‍රම පිළිබඳ ලබා දෙන කුසලතා ප්‍රතිසංවිධානය කර ගැනීමට, ක්ෂුද්‍ර ඉගැන්වීම් ක්‍රම (Micro teaching) ඇසුරෙන් ප්‍රායෝගික කුසලතා ලබා දිය යුතු ය.

* දෛනික ව පාඩම් සැලසුම් කිරීම සහ ගවේශනශීලි ක්‍රියාකාරකම් තැනීමේ කුසලතා වර්ධනයට අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාව හා සමගාමී ව විදේශීය හා දේශීය පර්යේෂණවල පන්ති කාමර නිරීක්ෂණ ඇසුරෙන් ගොඩනගා ඇති සහායක ඉගෙනුම් මූලාශ්‍ර (Supporting materials) අධ්‍යාපන විද්‍යාපීඨවල ශික්ෂණලාභීන් වෙත ලබා දිය යුතුය.

* ගුණාත්මක යෙදවුම්, ඉගෙනුම් ආධාරක තැනීම පිළිබඳ ශික්ෂණලාභීන්ගේ කුසලතා වර්ධනය කිරීමට වැඩමුළු (Workshop) පැවැත්වීමට අධ්‍යාපන විද්‍යාපීඨ ගණිත විෂයමාලාවෙන් ප්‍රමාණවත් කාලයක් වෙන් කළ යුතු ය.

* ගණිත සංකල්ප සාධනය වූ ආකාර මැන බැලීමට පොදු බවෙන් තොර ගණිත විෂයයට සුවිශේෂ ලෙස ඇගයීම් ක්‍රම සකස් කිරීමේ නිපුණතා විෂයමාලාවේ අන්තර්ගත කළ යුතු ය.

* පාසල් ගණිත විෂයමාලාවේ වරින් වර ඇති වන ප්‍රතිසංස්කරණවලට සමගාමී ව, ඒ පිළිබඳ යාවත්කාලීන දැනුමක් ලබා දීමෙන් එක් එක් ශ්‍රේණිවල විෂය නිර්දේශ සඳහා විෂය කරුණු තෝරා ගැනීමේ සීමා හඳුනා ගනිමින්, දෛනික පාඩම් සැලසුම් පිළියෙල කිරීම සඳහා නිපුණතා අන්තර්ගත කළ යුතු ය.

* ශික්ෂණලාභීන්ගේ ප්‍රශ්නකරණ කුසලතා වර්ධනය කිරීමට ගණිත විෂයමාලාව ක්‍රියාත්මක කිරීමේ දී බුද්ධි කලම්බන හා විවාද ක්‍රම ඉගැන්වීම් ක්‍රම ලෙස භාවිත කළ යුතුය.

ආශ්‍රිත ග්‍රන්ථ

අධ්‍යාපන ධවල පත්‍රිකාව (1981) අධ්‍යාපන ප්‍රතිසංස්කරණ යෝජනා, බත්තරමුල්ල: අධ්‍යාපන අමාත්‍යාංශය.

ඒකනායක ඊ.එම්. (1989) ශ්‍රී ලංකාවේ අධ්‍යාපන විද්‍යාපීඨ ගුරු සේවාව පිළිබඳ විමර්ශනාත්මක අධ්‍යයනයක්, කොළඹ:කොළඹ විශ්වවිද්‍යාලය.

බලදොර එල්. (1997) ශ්‍රී ලංකාවේ අධ්‍යාපන විද්‍යාපීඨවල ප්‍රායෝගික ගුරු පුහුණුව පිළිබඳ විමර්ශනයක්, කොළඹ:කොළඹ විශ්වවිද්‍යාලය.

Azanr, H. (2004) Teachers training in Mathematics. India: Department of Mathematics. Veer Kumwar Singhe University.

Çağlar, M. (1999) Mathematic and Language. ankara: METU Press.

Davison M. and Metheny A. (1995) , What does integration of Science and Mathematics really mean?,*Research center Report*,7, 39-45.

Gerges G. (2001) Factors influencing pre service teachers' variation in use of instructional methods. Memphis.: University of Memphis.

Glaser, B. and Strauss A. (1967) The discovery of Grounded theory. Strategies for qualitative Research. Chicago: Aldine publishing Company.

Lee, J.K.(2000). Theoretical consideration of pre service Mathematics teachers training, Journal of Korea Society of Mathematical Education, Series 2.Vol 4, 67.

Wicramasinghe N. (2004) A study of the changes to Sri lanken pre-service teachers knowledge about teaching during their student teaching, University of Wellongong' thesis collection.Available from: http://ro.uow.edu.au/cgi/viewcontent.cgi? theses pdf.Accessed 24th June 2013.

A CONTENT ANALYSIS OF M.PHIL THESES IN EDUCATION SUBMITTED TO THE UNIVERSITY OF COLOMBO

R.D.Shanthilatha
B.A./M.A./P.G.D.E./M.Ed.
B/Sri Sugatha Secondary School
Ballaketuwa
rdshanthi1@gmail.com

Abstract in English

Research on the post graduate degree theses on education and syntheses of these are limited. Therefore, it is difficult to obtain overall knowledge on the content as well as the layout of the post graduate theses in Sri Lanka. On this foundation, the aim of the research is the content analysis of the theses and to investigate layout features of the education M. Phil degree theses (Sinhala medium), which were submitted to the University of Colombo. The objectives are to identify: areas of theses, the changes that had taken place during the given time period, the method of development of the layout features, the development of themes and the evolution of research methodology of the completed theses. To fill the knowledge gap much assistance has been obtained from the theses of the post graduate degrees and also from the foreign literature review. The sample consists of M. Phil theses submitted during the 1975-2013 period to the Faculty of Education, University of Colombo. The sampling methods were cluster and purposive, the number of theses completed was 189. The findings illustrated, that researches have used 11 pages as front pages, in three formats and four patterns when dividing the chapters. Most of the research used quantitative analytic research method, while questionnaire was the main data collection method, and the analysis was illustrated with graph and figures.

Key Words: Content Analysis, Theses Content, Layout features

කොළඹ විශ්වවිද්‍යාලයේ සිංහල මාධ්‍ය අධ්‍යාපන දර්ශනපති උපාධි නිබන්ධ පිළිබඳ සන්ධාර විශ්ලේෂණයක්

ආර්. ඩී. ශාන්තිලතා
ශ්‍රී ලංකා ගුරු සේවය
බ/ශ්‍රී සුගත ද්විතීයික විද්‍යාලය
බල්ලකෙටුව.
rdshanthi1@gmail.com

සංක්ෂිප්තය

අධ්‍යාපනය පිළිබඳ පශ්චාද් උපාධි නිබන්ධ පිළිබඳ පර්යේෂණ සීමිත නිසා ශ්‍රී ලංකාවේ පශ්චාද් උපාධි නිබන්ධවල අන්තර්ගතය හා ආකෘතිය පිළිබඳ පූර්ණ දැනුමක් ලබා ගැනීමට පර්යේෂකයින්ට ඇති අවස්ථා සීමිත වේ. ඒ පදනම මත කොළඹ විශ්වවිද්‍යාලයේ සිංහල මාධ්‍ය අධ්‍යාපන දර්ශනපති උපාධි පර්යේෂණ නිබන්ධවල අන්තර්ගතය සහ ආකෘති ලක්ෂණ පිළිබඳ සන්ධාර විශ්ලේෂණයක් කිරීම පර්යේෂණයේ පරමාර්ථයයි. පර්යේෂණයේ අරමුණු වූයේ පර්යේෂණ නිබන්ධවල ව්‍යාප්තිය, කාලය අනුව වෙනස් වූ ආකාරය හඳුනා ගැනීම, ආකෘතික ලක්ෂණ සංවර්ධනය වූ ආකාරය හඳුනා ගැනීම, නිබන්ධවලට පදනම් වූ තේමාවල සංවර්ධන රටා හඳුනා ගැනීම සහ නිබන්ධවල පර්යේෂණ ක්‍රමවිද්‍යාව සඳහන් වූ ආකාරයේ විකාශනය හඳුනා ගැනීම ය. සාහිත්‍ය විමර්ශනයේ දී දේශීය සාහිත්‍ය යටතේ පර්යේෂණ අධි විශ්ලේෂණය, නිබන්ධවල අන්තර්ගතය විශ්ලේෂණය, විශ්වවිද්‍යාල පශ්චාද් උපාධි නිබන්ධ නාමාවලි අධ්‍යයනය මෙන් ම විදේශීය සාහිත්‍ය අධ්‍යයනයෙන් දැනුම් හිඩැස් විවර කරගන්නා ලදී. කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන පීඨය වෙත 1975 සිට 2013 දක්වා ඔප්පු කළ සිංහල මාධ්‍ය දර්ශනපති උපාධි නිබන්ධ 189ක් පොකුරු සහ ආරම්මන නියැදි ක්‍රම අනුව තෝරා ගෙන, ප්‍රමාණාත්මක සුසමාදර්ශ ක්‍රමයට අයත් සන්ධාර විශ්ලේෂණ පර්යේෂණ ක්‍රමය අනුව විශ්ලේෂණය කරන ලදී. දත්ත විශ්ලේෂණයෙන් හඳුනා ගත් රටා ප්‍රතිශත ගණනයෙන් හඳුනාගෙන වගු හා රූප මඟින් නිරූපණය කරන ලදී. 1975 සිට 2013 දක්වා ඉදිරිපත් වී ඇති නිබන්ධවල මුල් පිටු අංක කිරීමේ රටා තුනකි. වැඩි ම නිබන්ධ සංඛ්‍යාවක් ඉදිරිපත් වී ඇත්තේ විස්තරාත්මක පර්යේෂණ ප්‍රවේශයෙනි. බහුල ව ම භාවිත කොට ඇත්තේ සමීක්ෂණ පර්යේෂණ ක්‍රම ශිල්පයයි. දත්ත රැස් කිරීමේ ප්‍රමුඛ ක්‍රමය වී ඇත්තේ ප්‍රශ්නාවලි ය. දත්ත විශ්ලේෂණය කිරීමේ ප්‍රමුඛ ක්‍රමය වී ඇත්තේ ප්‍රස්තාර ය.

මුඛ්‍ය වචන : සන්ධාර විශ්ලේෂණය, නිබන්ධ අන්තර්ගතය, ආකෘතික ලක්ෂණ

හැඳින්වීම

සන්ධාර විශ්ලේෂණ පර්යේෂණ ක්‍රමය මගින් යම් කිසි සන්දර්භයක ආකෘතික ලක්ෂණ සහ අන්තර්ගත දෑ පර්යේෂණාත්මක ව විශ්ලේෂණය කර විමර්ශනය කළ හැකි ය (Holsti, 1969). මෙම පර්යේෂණයේ පරමාර්ථය ද අධ්‍යාපන ක්ෂේත්‍රයේ දර්ශනපති උපාධි පර්යේෂණ නිබන්ධවල අන්තර්ගත ලක්ෂණ සහ ආකෘති ලක්ෂණ පිළිබඳ සන්ධාර විශ්ලේෂණයකි. ශ්‍රී ලංකාවේ පශ්චාද් උපාධි අවශ්‍යතා පූරණය කිරීම සඳහා අධ්‍යාපන ක්ෂේත්‍රයේ විවිධ විෂය ක්ෂේත්‍රවලට අයත් පර්යේෂණ නිම කර ඇති බව පර්යේෂණ නිබන්ධ නාමාවලි පිරික්සන විට පැහැදිලි වේ (Amarasinghe, 1971; Kodagoda, 1992; Alwis, 1993; Rupasinghe, Gunawardana, Wijetunge, & Kularatne, 1995; ජාතික අධ්‍යාපන ආයතනය, 1993; ජාතික අධ්‍යාපන ආයතනය 2007). නිබන්ධ නාමාවලි පදනම් කර ගෙන පශ්චාද් උපාධි නිබන්ධවල දී අවධාරණය වූ තේමා, පර්යේෂණ ගැටලු, විෂය ක්ෂේත්‍ර පිළිබඳ අවබෝධයක් ලබා ගත හැකි නමුත් නිබන්ධවල අන්තර්ගතයෙහි සහ ආකෘතියෙහි රටා කෙබඳු දැ යි හඳුනා ගැනීමට නම් නිබන්ධවල සන්ධාරය සහ ආකෘතිය අධ්‍යයන කරමින් ගැඹුරු විශ්ලේෂණයක් කළ යුතු ව පවතී. ඒ සඳහා නිබන්ධ නාමාවලි වෙනුවට නිබන්ධ ම පරිශීලනය කිරීමේ අවශ්‍යතාව පවතී.

කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන පීඨය, 1980-2000 කාලයේ පළ වූ අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධවල සාරාංශ අඩංගු සංග්‍රහයක් (National Education Research and Evaluation Centre, Faculty of Education, 2003) සැකසුව ද එහි දී නිබන්ධවල භාවිත වූ පර්යේෂණ සුසමාදර්ශ හෝ තේමා හෝ ආකෘතික ලක්ෂණ ඇතුළත් වන පරිදි ගැඹුරු විශ්ලේෂණයක් සිදු කොට නැත. එහි ප්‍රමුඛ අරමුණ වී ඇත්තේ පර්යේෂණ නිබන්ධවල සංක්ෂිප්ත සකස් කර ගොනු කිරීම පමණි. ගුණවර්ධන (1987) විශ්වවිද්‍යාල පශ්චාද් උපාධි නිබන්ධ 50ක් විශ්ලේෂණය කරමින් නිම කළ සන්ධාර විශ්ලේෂණයේ අරමුණ, ශ්‍රී ලංකාවේ ඵලදායී පාසල් නිර්ණය කරන සාධක හඳුනා ගැනීම වූ බැවින්, ඊට පදනම් වී ඇත්තේ පාසල් කළමනාකරණ විෂය ක්ෂේත්‍රයට අදාළ "ඵලදායී පාසල්" යන තේමාවට අදාළ වූ නිබන්ධ පමණි. එහි දී අවධාරණය වී ඇත්තේ ඵලදායී පාසල් හඳුනා ගැනීමේ නිර්ණායක පමණි. මේ පර්යේෂණ ලේඛන දෙකෙහි ශක්‍යතා පැවතිය ද ඒවායින් ආවරණය නො වූ ක්ෂේත්‍ර කරණ කොට ගෙන මතු වන දැනුම් හිඩැස මත, විශ්වවිද්‍යාලවල අධ්‍යාපන දර්ශනපති උපාධි නිබන්ධ පිළිබඳ සන්ධාර විශ්ලේෂණයක් කිරීමේ වැදගත්කම සහ අවශ්‍යතාව මතු වේ. එමගින් අධ්‍යාපන දර්ශනපති උපාධි නිබන්ධවල අන්තර්ගතය ද ආකෘතිය ද විවෘත දෘෂ්ටියකින් අධ්‍යයනය කිරීමේ අවශ්‍යතාව ද මතු වේ. මේ පදනම අනුව වර්තමාන පර්යේෂණය සඳහා ගැටලු ප්‍රකාශය වන්නේ, කොළඹ විශ්වවිද්‍යාලයේ සිංහල මාධ්‍ය දර්ශනපති උපාධි සඳහා ඔප්පු කළ පර්යේෂණවල අන්තර්ගතය ද ආකෘතිය ද සහිත සන්ධාරය කෙබඳු රටා සහිත ව සම්පාදනය වී ඇත්තේ ද? යනු ය. මේ රටා හඳුනා ගැනීමෙන් ශ්‍රී ලංකාවේ අධ්‍යාපන පර්යේෂණ ඉතිහාසයට ආලෝක ධාරාවක් සැපයීමට හැකි වන්නේ, එමගින් අධ්‍යාපන පර්යේෂණවල චෛතිහාසික විකාශනය විශ්වවිද්‍යාල නිබන්ධ පදනම්න් අවබෝධ කර ගත හැකි නිසා ය.

සාහිත්‍ය විමර්ශනය

වර්තමාන පර්යේෂණයට පූර්වගාමී ව මෙතෙක් කර ඇති පර්යේෂණ පිළිබඳ ව සාකච්ඡා කිරීමට අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධ සන්ධාර විශ්ලේෂණ පිළිබඳ න්‍යායාත්මක පර්යේෂණ සහ සන්ධාර විශ්ලේෂණයට අදාළ විවිධ ක්ෂේත්‍ර ඔස්සේ සිදු වූ පර්යේෂණ සාහිත්‍යය සාකච්ඡා කරන ලදී. දේශීය සාහිත්‍ය යටතේ පර්යේෂණ අධි විශ්ලේෂණය, නිබන්ධවල අන්තර්ගතය විශ්ලේෂණය, විශ්වවිද්‍යාල පශ්චාද් උපාධි නිබන්ධ නාමාවලි යන මාතෘකා යටතේ සාහිත්‍ය විමර්ශන තොරතුරු ගොනු කරන ලදී. දේශීය පර්යේෂණ හා විදේශීය පර්යේෂණ විග්‍රහ කර වර්තමාන පර්යේෂණය සඳහා වන ආලෝකය සහ අවශ්‍යතාව නාහිගත කරන ලදී.

පර්යේෂණ අධි විශ්ලේෂණය

අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධ සන්ධාර විශ්ලේෂණ පිළිබඳ ව කර ඇති න්‍යායාත්මක පර්යේෂණ පිළිබඳ සාහිත්‍යය විමර්ශනයේ දී උඩගම (1969) ලංකාවේ අධ්‍යාපන පර්යේෂණ ආරම්භ වූ ආකාරය පිළිබඳ ව ලියූ ලිපිය වැදගත් වේ. ලංකා විශ්වවිද්‍යාලයේ අධ්‍යාපන අංශය පිහිටුවීම පිළිබඳ විග්‍රහයක් උඩගම (1969) විමගින් ඉදිරිපත් කරයි. එහි, අධ්‍යාපන ඉතිහාසය, අධ්‍යාපනික දර්ශනය සහ ආගමික අධ්‍යාපනය, අධ්‍යාපනික පරීක්ෂණ සහ මිණුම්, අධ්‍යාපනික සමාජ විද්‍යාව සහ යෞවනය පිළිබඳ අධ්‍යයන, විෂයමාලා අධ්‍යයන, උසස් අධ්‍යාපනය, අධ්‍යාපනික පරිපාලනය, මුදල් සහ සැලසුම් කිරීම යන විෂය ක්ෂේත්‍රවලට අදාළ ව සිදු වූ අධ්‍යාපන පර්යේෂණ පිළිබඳ ව ලුහුඬු සටහනක් ඉදිරිපත් වේ. උඩගම (1969) අධ්‍යාපනයේ ඉතිහාසය විෂය ක්ෂේත්‍රය පිළිබඳ ව මෙසේ ප්‍රකාශ කරයි.

> *"අධ්‍යාපනික පර්යේෂණයෙහි දී බොහෝ දෙනා ගේ සැලකිල්ලට භාජන වී තිබෙන විෂයය මේ ය. මේ විෂයය පිළිබඳ වාර්තා බහුල ව තිබීම සහ එබඳු කටයුතු සඳහා විශේෂ පුහුණුවක් අත්‍යවශ්‍ය නැතැයි යන විශ්වාසය ද මෙසේ පර්යේෂණ කටයුතුවල යෙදෙන සංඛ්‍යාව වැඩි වීමට හේතු වූ සාධක විය හැකි ය. දිවයිනේ ඉතිහාසයෙහි සියලුම කාලපරිච්ඡේද සම්බන්ධයෙන් වාගේ අධ්‍යයන කර ඇති නමුත්, ආදීම යුගය සහ ඛ්‍රිතාන්‍ය යුගය වැඩි දෙනා ගේ අවධානයට ලක් වූ සේ පෙනේ. ඉතිහාසය විෂයයෙහි පර්යේෂණවලට ද මේ යුග දෙක පෑතුගීසි සහ ලන්දේසි යුගවලට වඩා හසු වී ඇත"* (උඩගම, 1969: 1012).

උඩගම අදහස පදනම් කර ගෙන වර්තමාන පර්යේෂණයේ දී ද මෙවැනි විග්‍රහයක් කළ හැකි ය. ඒ අනුව නියැදිය වූ නිබන්ධවලින් කොපමණ සංඛ්‍යාවක් හඳුනා ගනු ලබන ඒ ඒ විෂය ක්ෂේත්‍ර නියෝජනය කරන්නේ ද? උදාහරණ වශයෙන් තුලනාත්මක විෂය යටතේ පර්යේෂණ සිදු වී ඇත්නම් එම පර්යේෂණ කුමන වර්ෂ නියෝජනය කරන්නේ ද? යනු ලෙස වර්තමාන පර්යේෂණයේ දී දත්ත විග්‍රහ කරන ලදී.

කොඩිතුවක්කු සහ රණතුංග (2014) ශ්‍රී ලංකාවේ විශ්වවිද්‍යාලවල 1956-2006 දක්වා සිදු වී ඇති අධ්‍යාපන පර්යේෂණවල ස්වභාවය පුළුල් ලෙස විස්තර කරමින්, පර්යේෂණ පිළිබඳ සංඛ්‍යා විද්‍යාත්මක විග්‍රහයක් ද ඉදිරිපත් කරමින්, ප්‍රකාශ කරන්නේ 1956-2006 අතර කාල වකවානුවේ දී අධ්‍යාපන පශ්චාද් උපාධි පර්යේෂණ 609 ක් සිදු වී ඇති බව ය. එහි අධ්‍යාපන පශ්චාද් උපාධි පර්යේෂණ, ශාස්ත්‍රපති (අධ්‍යාපන), අධ්‍යාපනපති, දර්ශනපති සහ දර්ශනසූරි වශයෙන් වෙන් කොට දක්වා තිබීම නිසා, කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධ, පශ්චාද් උපාධි වර්ගය අනුව හඳුනා ගැනීමට උපකාරී වේ. එහෙත් පර්යේෂණ ක්‍රමවේදය සඳහන් වූ ආකාරයේ විකාශනය හෝ ආකෘතික ලක්ෂණ වෙනස් වූ අයුරු පිළිබඳ ව කොඩිතුවක්කු සහ රණතුංග (2014) සුවිශේෂී ව අධ්‍යයනයට හසු කොට නොමැති බැවින් එහි දැනුම් හිඩැසක් (Knowledge gap) නිර්මාණය වේ. එබැවින් පර්යේෂණ ක්‍රම විද්‍යාව සඳහන් වූ ආකාරයේ විකාශනය සහ ආකෘතික ලක්ෂණ වෙනස් වූ ආකාරය යන පර්යේෂණ අරමුණු මතු කර ගැනීමට උක්ත පර්යේෂණ ලිපියේ පර්යේෂණ හිඩැස පාදක කර ගන්නා ලදී.

නිබන්ධවල අන්තර්ගතය විශ්ලේෂණය

විශ්වවිද්‍යාල පශ්චාද් උපාධි නිබන්ධ 50ක් විශ්ලේෂණය කරමින් ශ්‍රී ලංකාවේ ඵලදායී පාසල් නිර්ණය කරන සාධක හඳුනා ගැනීමට ගුණවර්ධන (1987) කළ පර්යේෂණය විශ්වවිද්‍යාල පශ්චාද් උපාධි නිබන්ධ සන්ධාර විශ්ලේෂණ පිළිබඳ නයායාත්මක පර්යේෂණ සාහිත්‍යය විමර්ශනයේ දී දේශීය ව හමු වන එක ම පර්යේෂණය වේ. ගුණවර්ධන (1987) කළ විශ්ලේෂණයේ දී අවධාරණය වන ක්ෂේත්‍ර හත වනුයේ සම්ප්‍රදායික සහ සම්ප්‍රදායික නොවන උපදේශන ක්‍රමවල කාර්යක්ෂමතාව, උපදේශන ද්‍රව්‍ය උපයෝගී කර ගැනීම, උපදේශන කාලය භාවිතය, මතකය, මතකය වැඩි දියුණු කිරීම සහ පරිවර්තනය කිරීමේ නිර්ණායක, ශිෂ්‍ය සාධනයට බලපාන භෞතික හා අධ්‍යාපන සම්පත්, කලාප ඇතුළත වෙනස්කම්වල බලපෑම හා පාසල් තලයේ කළමනාකරණයේ ක්‍රම ශිල්ප සහ ශෛලිය යන ක්ෂේත්‍ර හත ය. පර්යේෂණවලින් ඉස්මතු වන තේමා අවධාරණය කිරීමකට වඩා කාර්යක්ෂම පාසල් නිර්ණය කිරීමේ සාධක ලෙස නිබන්ධවලින් උකහා ගත හැකි කරුණු හඳුනා ගෙන විශ්ලේෂණය කිරීමට ගුණවර්ධන (1987) උත්සාහ කර ඇත. ගුණවර්ධන (1987) පර්යේෂණයට සාපේක්ෂ ව වර්තමාන පර්යේෂණයේ දී, නිශ්චිත තේමාවක් අනුව පර්යේෂණ නිබන්ධ විශ්ලේෂණය කිරීමකට වඩා, පර්යේෂණ නිබන්ධවලින් උකහා ගත හැකි තේමා උද්ගාමී ව හඳුනා ගන්නා ලදී.

ගුණවර්ධන (1987) පර්යේෂණ නිබන්ධ තෝරා ගැනීමේ දී අධ්‍යාපන ක්ෂේත්‍රයට අදාළ ව විශ්වවිද්‍යාලයට ඔප්පු කළ ශාස්ත්‍රපති (අධ්‍යාපන) පර්යේෂණ නිබන්ධ 8ක් ද අධ්‍යාපනපති නිබන්ධ 13ක් ද දර්ශනපති නිබන්ධ 13ක් ද අධ්‍යාපන අමාත්‍යංශය, ස්වභාවික සම්පත් පිළිබඳ මාර්ග ආයතනය, බලශක්ති සහ විද්‍යා අධිකාරිය යන ආයතනවල පර්යේෂණ 16ක් ද වශයෙන් නිබන්ධ 50ක් නියැදිය වශයෙන් තෝරා ගැනීමෙන් කාර්යක්ෂම පාසල් නිර්ණය කිරීමේ සාධක හඳුනා ගැනීමට හැකි වුව ද අදාළ නියැදියේ නිබන්ධවල ආකෘතික ලක්ෂණ හෝ පර්යේෂණ නිබන්ධවලට පදනම් වූ තේමාවල සංවර්ධන රටා හඳුනා ගෙන නැති බැවින් ඒ ක්ෂේත්‍රය පිළිබඳ ව දැනුම් හිඩැසක් (Knowledge gap) මතු වේ.

ඵලදායී පාසලක් සඳහා වූ නිර්ණායක හඳුනා ගැනීමට ගුණවර්ධන (1987) භාවිත කළේ ගුණාත්මක සුසමාදර්ශ ප්‍රවේශයයි. එයින් පැහැදිලි වන්නේ සන්ධාර විශ්ලේෂණයක දී ගුණාත්මක සුසමාදර්ශ ප්‍රවේශය භාවිත කිරීමට ඇති ඉඩකඩයි. ගුණවර්ධන (1987) සන්ධාර විශ්ලේෂණය භාවිතයෙන් රැස් කළ දත්තවලින් කළ විශ්ලේෂණයෙන් නව අනාවරණ ද ඉදිරිපත් කර ඇත. පර්යේෂණ අනාවරණ ඉදිරිපත් කරමින් ගුණවර්ධන (1987) ප්‍රකාශ කරන්නේ පර්යේෂණ අතර එකිනෙකට පරස්පර විරෝධී පරතරයක් ඇති බවත් සම්ප්‍රදායික ඉගැන්වීම් ක්‍රමවේද විවිධ විෂයයන් සඳහා නිවැරදි ව යොමු කරන්නේ නම් ඒවා වඩා ඵලදායී වන බවත් ය. උපකරණ භාවිතය සහ පන්තිකාමර ඉගැන්වීම් පිළිබඳ සිදු කළ පර්යේෂණ අඩු බවට ද ගුණවර්ධන (1987) තවදුරටත් අනාවරණය කරන ලදී.

විශ්වවිද්‍යාල පශ්චාද් උපාධි නිබන්ධ නාමාවලි

පර්යේෂණ පිළිබඳ අධි විශ්ලේෂණයේ (Meta-analysis of research) නිරත වීම පර්යේෂණ සඳහා වන සුසාධ්‍යකාරක පියවරකි. විවිධ ආයතනවලින්, විවිධ විෂය ක්ෂේත්‍ර යටතේ දැනට කර ඇති පර්යේෂණ පිළිබඳ පර්යේෂණ දැනුම ඒකරාශී වී ඇති පර්යේෂණ ග්‍රන්ථ නාමාවලි ශ්‍රී ලංකාවේ පැවතිය ද එම ග්‍රන්ථ නාමාවලි අතරින් අධ්‍යාපන පශ්චාද් උපාධි පිළිබඳ ව නිකුත් වී ඇති ග්‍රන්ථ නාමාවලිවලින් වර්තමාන පර්යේෂණයට ආලෝකයක් ලබා ගන්නා ලදී.

Kodagoda (1992) සම්පාදනය කළ ශ්‍රී ලංකාවේ අධ්‍යාපන පර්යේෂණ නාමාවලියේ පේරාදෙණිය විශ්වවිද්‍යාලය, කොළඹ විශ්වවිද්‍යාලය, පොල්ගොල්ල ගුරු විද්‍යාලය, ජාතික අධ්‍යාපන ආයතනය යන ආයතනවලින් 1796--1986 දක්වා විවිධ විෂය ක්ෂේත්‍ර යටතේ සිදු වූ වෙකික නිබන්ධ වර්ග (Reports of monograpy-category), පර්යේෂණ (Thesis), ශ්‍රේණිගත ලිපි (Articles in serials), බහුපක්ෂ වෙළුම් (Multipart volumes), අප්‍රකාශිත වාර්තා (Unpublished reports) 1052ක නාමාවලියක් ගෙන හැර දක්වා ඇත. Kodagoda (1992) ඉහත ප්‍රකාශන හා පර්යේෂණ 1052කට අමතර ව තවත් පශ්චාද් උපාධි පර්යේෂණ නිබන්ධ 254ක් උපුටා දක්වමින්, අධ්‍යාපන පශ්චාද් උපාධි වර්ග කළ නාමාවලියක් ද ඉදිරිපත් කර ඇත. ඒ වර්ගීකරණය ද වර්තමාන පර්යේෂණයේ දී විවිධ විෂය ක්ෂේත්‍ර නිවැරැදි ව හඳුනා ගැනීමටත් ඒ අනුව කෝදාගොඩ ඉදිරිපත් කළ දැනුම වැඩි වර්ධනය කර (Advance), සුපහන් (Refine) කිරීමටත් පදනම් කර ගන්නා ලදී.

කොළඹ විශ්වවිද්‍යාලය (1995) සම්පාදනය කළ පශ්චාද් උපාධි නාමාවලියේ සඳහන් වන පරිදි, 1975-1995 අතර කාලයේ දී එම විශ්වවිද්‍යාලයේ සිදු වූ අධ්‍යාපන පශ්චාද් උපාධි පර්යේෂණ නිබන්ධ ද විවිධ විෂය ක්ෂේත්‍ර අනුව වර්ග කර ඇති නිසා කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන දර්ශනපති උපාධි නිබන්ධ සන්ධාර විශ්ලේෂණයට ලක් කරන වර්තමාන පර්යේෂණයේ දී නිබන්ධ විෂය ක්ෂේත්‍ර යටතේ වෙන් කර ගැනීමට පදනම් කර ගන්නා ලදී.

කොළඹ විශ්වවිද්‍යාලය සකස් කළ (National Education Research and Evaluation Centre, 2003) ශ්‍රී ලංකාවේ විශ්වවිද්‍යාලවල පළ වූ අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධවල සාරාංශ වාර්තාවේ කොළඹ විශ්වවිද්‍යාලයේ, පේරාදෙණිය විශ්වවිද්‍යාලයේ, විවෘත විශ්වවිද්‍යාලයේ සහ යාපනය විශ්වවිද්‍යාලයේ 1980 සිට 2000 දක්වා සිදු වූ නිබන්ධවල සාරාංශ අන්තර්ගත ය. මේ අධ්‍යයනයේ දී පර්යේෂණ නිබන්ධ 294 ක්, පර්යේෂණ ප්‍රශ්න, අරමුණු සහ නිගමන, ඒ ඒ පර්යේෂණය අනුව වෙන වෙන ම සාරාංශ කොට දක්වමින්, විෂය ක්ෂේත්‍ර 8ක් ඔස්සේ වර්ග කර ඇත. එම අනාවරණ අනුව 1980--2000 අතර කාලයේ දී අඩු ම පර්යේෂණ සංඛ්‍යාවක්, එනම් පර්යේෂණ 9ක්, සිදු වී ඇත්තේ 'වැඩිහිටි අධ්‍යාපනය' විෂය ක්ෂේත්‍රයේ ය. පාසල් සහ පාසල් ක්‍රියාකාරකම් යන විෂය ක්ෂේත්‍රය යටතේ වැඩි ම පර්යේෂණ සංඛ්‍යාවක්, එනම් පර්යේෂණ 128ක් සිදු වී ඇත. එහෙත් නියැදියට තෝරා ගත් විශ්වවිද්‍යාලවල, ඒ ඒ විෂය ක්ෂේත්‍රයෙන් සිදු වූ පර්යේෂණ, වෙන වෙන ම, නො දැක්වේ. එසේ ම 1980-2000 අතර සිදු වූ පර්යේෂණ නිබන්ධ පමණක් එම විශ්ලේෂණයට නියැදිය වූ බැවින් 1980ට පෙර සහ 2000 වර්ෂයෙන් පසු ව නිම වූ අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධ පිළිබඳ ව අධ්‍යයනය කිරීමේ ලා වූ පැහැදිලි අවශ්‍යතාවක් සහිත දැනුම් හිඩැසක් (Knowledge gap) මතු වේ. වර්තමාන පර්යේෂණය එම දැනුම් හිඩැස පිරවීමට ද දායක වේ.

විදේශීය සාහිත්‍යය

Rourke සහ Szabo (2002) 1986 සිට 2001 දක්වා වූ වර්ෂ 15ක කාලයේ ප්‍රකාශයට පත් කරන ලද දූරස්ථ අධ්‍යාපන ජර්නල කලාප 23ක පළ වූ පර්යේෂණ පිළිබඳ සන්ධාර විශ්ලේෂණයක් කළ අතර ඔවුහු එම පර්යේෂණයේ මූලික අරමුණු හතරක් දක්වති. පළමු අරමුණ වන්නේ, දූරස්ථ අධ්‍යාපන ජර්නලයෙහි වාර්තා වූ පර්යේෂණ කතුවරුන්, ඇතුළත් අංග හා යොදා ගන්නා ලද පර්යේෂණ ක්‍රමශිල්ප හඳුනා ගැනීම ය. Rourke සහ Szabo (2002) පර්යේෂණයේ දෙවන අරමුණ දුරස්ථ අධ්‍යාපන ජර්නලයෙහි වාර්තා වූ පර්යේෂණ කතුවරුන්, ඇතුළත් අංග හා යොදා ගන්නා ලද පර්යේෂණ ක්‍රමශිල්ප හඳුනා ගැනීමට අදාළ ව ලැබෙන තොරතුරු, දූරස්ථ අධ්‍යාපන ජර්නලයේ අරමුණු සමග සංසන්දනාත්මක ව සලකා බැලීම ය. තෙවන අරමුණ සමාන වර්ගයේ ප්‍රකාශනවල ඇති වෙනත් විශ්ලේෂණ සමග සංසන්දනය කිරීම ය. හතර වන අරමුණ දූරස්ථ අධ්‍යාපනයේ නව නැඹුරුතා හඳුනා ගැනීම ය. කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන පශ්චාද් උපාධි පර්යේෂණ පිළිබඳ ව කෙරෙන වර්තමාන සන්ධාර විශ්ලේෂණයේ දී ද Rourke සහ Szabo (2002) පදනම් කර ගත් පර්යේෂණ අරමුණු වැදගත් වේ.

Rourke සහ Szabo (2002), පර්යේෂණයේ ප්‍රධාන අනාවරණය දක්වමින් ප්‍රකාශ කරන්නේ ආනුභවික පර්යේෂණ ඉතාමත් බහුල ව (73%) දූරස්ථ අධ්‍යාපන ජර්නලවල අන්තර්ගත වී ඇති බව ය. එම අනාවරණය ඔස්සේ යමින් කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන දර්ශනපති උපාධි නිබන්ධවල බහුල ව අන්තර්ගත වන පර්යේෂණ සුසමාදර්ශය හෝ සුසමාදර්ශ මොනවා ද? යන්න හඳුනා ගැනීම සඳහා පර්යේෂණයක් කිරීමේ අවශ්‍යතාව පවතී. Rourke සහ Szabo (2002) තම පර්යේෂණයේ දී උපාංග පිළිබඳ ව අනාවරණය කර ගත් තොරතුරු විශ්ලේෂණය කිරීමේ දී ඒවා ප්‍රස්තාරවලින් ඉදිරිපත් කරන අතර මාතෘකා සම්බන්ධ අනාවරණ ප්‍රතිශතවලින් ඉදිරිපත් කරයි. මෙම පදනම මත වර්තමාන පර්යේෂණයේ සන්ධාර විශ්ලේෂණයට අදාළ දත්ත විශ්ලේෂණයේ දී ද ප්‍රතිශත භාවිත කරන ලදී. විශ්ලේෂිත දත්ත ප්‍රස්තාරවලින් නිරූපණය කරන ලදී.

පර්යේෂණ පරමාර්ථය සහ අරමුණු

ගැටලු ප්‍රකාශය පාදක කර ගෙන, කොළඹ විශ්වවිද්‍යාලයේ සිංහල මාධ්‍ය අධ්‍යාපන දර්ශනපති උපාධි පර්යේෂණ නිබන්ධ පිළිබඳ සන්ධාර විශ්ලේෂණයක් කිරීම පර්යේෂණ පරමාර්ථයයි. එහි දී ගොඩ නැඟුණු සුවිශේෂී අරමුණු හතරක් ඔස්සේ සහ ඒවා යටතේ ගොඩනැගූ සුවිශේෂී පර්යේෂණ ප්‍රශ්න අනුව අධ්‍යාපන පර්යේෂණ නිබන්ධ විශ්ලේෂණය කරන ලදී.

1. කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන ක්ෂේත්‍රයේ දර්ශනපති උපාධි පර්යේෂණ නිබන්ධවල ව්‍යාප්තිය, කාලය අනුව වෙනස් වූ ආකාරය හඳුනා ගැනීම.
   1.1 කාලය අනුව නිබන්ධවල ව්‍යාප්තිය වෙනස් වූයේ කෙසේ ද?
2. කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන ක්ෂේත්‍රයේ දර්ශනපති උපාධි පර්යේෂණ නිබන්ධවල ආකෘතික ලක්ෂණ සංවර්ධනය වූ ආකාරය හඳුනා ගැනීම.
   2.1 මුල් පිටු සහ අවසාන පිටු ඉදිරිපත් වන ශෛලිය වෙනස් වූයේ නම් ඒ කෙබඳු රටාවලට ද?
   2.2 පරිච්ඡේද බෙදීමෙහි වෙනසක් වූයේ නම් ඒ කෙබඳු රටාවලට ද?
   2.3 ආශ්‍රිත ග්‍රන්ථ නාමාවලිය සඳහන් කරන අයුරු වෙනස් වූයේ නම් ඒ කෙබඳු රටාවලට ද?
3. විශ්වවිද්‍යාලයේ අධ්‍යාපන දර්ශනපති උපාධි පර්යේෂණ නිබන්ධවලට පදනම් වූ තේමාවල සංවර්ධන රටා හඳුනා ගැනීම.
   3.1 අවධාරණය වූ විෂය ක්ෂේත්‍ර වෙනස් වූයේ නම් ඒ කෙබඳු රටාවලට ද?
4. විශ්වවිද්‍යාලයේ අධ්‍යාපන දර්ශනපති උපාධි නිබන්ධවල පර්යේෂණ ක්‍රමවේද්‍යාව සඳහන් වූ ආකාරයේ විකාශනය හඳුනා ගැනීම.
   4.1 භාවිත වූ පර්යේෂණ සුසමාදර්ශ වෙනස් වූයේ නම් ඒ කෙබඳු රටාවලට ද?
   4.2 භාවිත වූ පර්යේෂණ ක්‍රමවේද වෙනස් වූයේ නම් ඒ කෙබඳු රටාවලට ද?
   4.3 දත්ත රැස් කිරීමේ සහ විශ්ලේෂණ ක්‍රම වෙනස් වූයේ නම් ඒ කෙබඳු රටාවලට ද?

පර්යේෂණ ක්‍රමවේදය

Reichardt & Cook (1979) ප්‍රකාශ කොට ඇත්තේ හඳුනා ගැනීමේ පහසුව සඳහා පර්යේෂණ කොටස් දෙකකට වෙන් කළ ද පර්යේෂණ සඳහා ප්‍රමාණාත්මක මෙන් ම ගුණාත්මක යන ක්‍රම දෙක ම යොදා ගැනීම යෝග්‍ය බවයි. එසේ ම ප්‍රමාණාත්මක හා ගුණාත්මක ක්‍රම දෙක මිශ්‍ර ව භාවිත කරන අවස්ථාවල පර්යේෂණ ප්‍රතිඵල ඉහළ අගයක් ගන්නා බව Bui (2009) ප්‍රකාශ කොට ඇත. සන්ධාර විශ්ලේෂණය ප්‍රමාණාත්මක හා ගුණාත්මක යන සුසමාදර්ශ දෙකෙන් ම කළ හැකි බව Spiel, Loschnig & Krueger (1999) ද ප්‍රකාශ කොට ඇත. එහෙත් වර්තමාන පර්යේෂණයේ දී ප්‍රමාණාත්මක (Quantitative) පර්යේෂණ සුසමාදර්ශය යටතේ එන සන්ධාර විශ්ලේෂණ (Content analysis) පර්යේෂණ ක්‍රමය පමණක් භාවිත කරන ලදී. ගුණාත්මක ප්‍රවේශයකින් නිබන්ධ විශ්ලේෂණය සඳහා වන පර්යේෂණයක් අනාගතයේ කිරීම සඳහා අවකාශය ඇත. සන්ධාර විශ්ලේෂණ පර්යේෂණ ක්‍රමයේ භාවිතය පිළිබඳ ව අදහස් දක්වන කොඩිතුවක්කු (2012), විෂයමාලාවේ සන්ධාරය ගැන පර්යේෂණයට මෙන් ම සන්ධාර සහිත ඕනෑ ම දෙයක් ගැන පර්යේෂණ කිරීමට, සන්ධාර විශ්ලේෂණ පර්යේෂණ ක්‍රමය භාවිත කළ හැකි බව පවසා ඇත.

යොදා ගන්නා පර්යේෂණ ක්‍රමය, පර්යේෂණ ක්‍රියාවලියේ පර්යේෂකයා අවධානය යොමු කළ යුතු වැදගත් අංගයක් බව Koul (1993) අවධාරණය කර ඇත. Rourke & Anderson (2004) ප්‍රකාශ කොට ඇත්තේ පසුගිය අවුරුදු 15කට අධික කාලයක් තිස්සේ අධ්‍යාපන කාර්මික විද්‍යා පර්යේෂණවල ප්‍රමාණාත්මක සුසමාදර්ශ ප්‍රවේශය යටතේ අන්තර්ගත විශ්ලේෂණ පර්යේෂණ යොදාගෙන ඇති බවයි. පරමාදර්ශී ආකෘතිය අනුව උද්ගාමී පර්යේෂණවල දී නිරීක්ෂණයෙන් රටා සොයා බලමින් පැහැදිලි කිරීම් සහ න්‍යායවලින් එම රටා පැහැදිලි කරන උද්ගාමී ආකෘතියේ සන්ධාර විශ්ලේෂණයේ දී ලේඛනවල මතුපිටින් පෙනෙන (Explicit/Manifest) සහ සැඟවුණු (Covert/Latent) අර්ථ මතු කරන බව Bernard & Ryan (2010) ප්‍රකාශ කොට ඇත. මේ සියලු කරුණු ද විග්‍රහ කොට බැලීමෙන් පසු ව මෙම පර්යේෂණය සඳහා ඉතා සුදුසු ම පර්යේෂණ ක්‍රමය වශයෙන් සන්ධාර විශ්ලේෂණ (Content Analysis) පර්යේෂණ ක්‍රමය තෝරා ගන්නා ලදී.

සංගහනය සහ නියැදිය

පර්යේෂණයේ සංගහනය (Population) වශයෙන් සලකන ලද්දේ ශ්‍රී ලංකාවේ විශ්වවිද්‍යාලවල අධ්‍යාපන පශ්චාද් උපාධි අවශ්‍යතා සපුරාලීම සඳහා ඉදිරිපත් කරන ලද නිබන්ධ ය. ඉලක්ක සංගහනය (Target population) වූයේ කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපනය විෂය ක්ෂේත්‍රයෙන් කළ දර්ශනපති උපාධි පර්යේෂණ නිබන්ධ ය. මෙම පර්යේෂණයේ දී සමස්ත සංගහනයෙන් ම දත්ත ලබා ගැනීම ප්‍රායෝගික ව දුෂ්කර වූ බැවින් පොකුරු සහ ආරම්මන නියැදි ක්‍රම භාවිත කරන ලදී. එහි දී ලංකාවේ විශ්වවිද්‍යාල අධ්‍යාපන පීඨ, කොළඹ විශ්වවිද්‍යාලය, පේරාදෙණිය විශ්වවිද්‍යාලය, විවෘත විශ්වවිද්‍යාලය, යාපනය විශ්වවිද්‍යාලය යනුවෙන් පොකුරු 4කට වර්ග කරන ලදී. පොකුරු හතරින් එක් පොකුරක් ලෙස කොළඹ විශ්වවිද්‍යාලය ආරම්මනගත ව තෝරා ගන්නා ලදී. එම විශ්වවිද්‍යාලයේ අධ්‍යාපන පීඨයට ඉදිරිපත් කොට තිබූ නිබන්ධ ද ශාස්ත්‍රපති (අධ්‍යාපන), අධ්‍යාපනපති, දර්ශනපති සහ දර්ශනසූරි යනුවෙන් තවත් පොකුරු හතරකට බෙදා එම පොකුරු හතරෙන් එක් පොකුරක් වූ දර්ශනපති නිබන්ධ පොකුර ආරම්මනගත ව තෝරා ගන්නා ලදී.

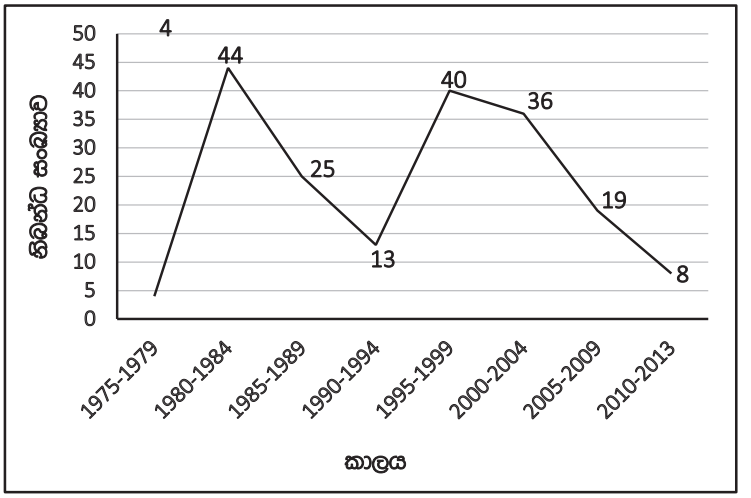
පර්යේෂණයේ දී නියැදුම් රාමුව ලෙස යොදා ගන්නා ලද්දේ කොළඹ විශ්වවිද්‍යාලයේ පුස්තකාලයේ පර්යේෂණ නිබන්ධ අංශයේ පවත්වා ගෙන යන අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධ නාමාවලියයි. ඒ අනුව කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපනය විෂය ක්ෂේත්‍රයෙන් කළ පශ්චාද් උපාධි පර්යේෂණ නිබන්ධවලින් පර්යේෂණයේ අරමුණුවලට ගැළපෙන පරිදි ආරම්භන නියැදිකරණය අනුව සිංහල මාධ්‍ය දර්ශනපති උපාධි නිබන්ධ පමණක් තෝරා ගන්නා ලදී. එහි දී 2013 වන විට නියැදුම් රාමුවේ සඳහන් වූ සහ 1978 සිට 2013 දක්වා කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන පීඨය වෙත ඉදිරිපත් වූ සිංහල මාධ්‍ය අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධ අතරින් දර්ශනපති නිබන්ධ සියල්ල ම නියැදිය ලෙස භාවිත කරන ලදී. ඒ අනුව 1978 සිට 2013 වසර දක්වා කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන පීඨය වෙත ඉදිරිපත් වූ දර්ශනපති නිබන්ධ ඒකකීය අසූනවයක් (189) නිබන්ධ නියැදිය ලෙස තෝරා ගන්නා ලදී.

දත්ත ඉදිරිපත් කිරීම, විශ්ලේෂණය සහ අර්ථකථනය

පර්යේෂණයේ දත්ත ඉදිරිපත් කිරීම, විශ්ලේෂණය සහ අර්ථකථනය පියවර අටකින් ඉදිරිපත් කරන ලදී. කොළඹ විශ්වවිද්‍යාලයේ අධ්‍යාපන පීඨයට ඉදිරිපත් වූ සිංහල මාධ්‍ය දර්ශනපති උපාධි නිබන්ධ සංඛ්‍යාවේ, වැඩි ම නිබන්ධ සංඛ්‍යාව ඉදිරිපත් වූ 1980-1984 කාලය සහ දෙවනුව වැඩි ම නිබන්ධ සංඛ්‍යාව ඉදිරිපත් වූ 1995-1999 කාලය ලෙස වර්ධන කාල දෙකක් පැහැදිලි ව හඳුනා ගත හැකි ය (1 වන වගුව සහ 1 වන රූපය).

1 වන වගුව. කාලය අනුව නිබන්ධවල ව්‍යාප්තිය 1975 සිට 2013 දක්වා

කාලය	නිබන්ධ සංඛ්‍යාව	ප්‍රතිශතය
1975-1979	04	2.17
1980-1984	44	23.29
1985-1989	25	13.23
1990-1994	13	6.88
1995-1999	40	21.16
2000-2004	36	19.04
2005-2009	19	10.05
2010-2013	08	4.23
එකතුව	189	100



1 වන රූපය. කාලය අනුව නිබන්ධවල ව්‍යාප්තිය 1975 සිට 2013 දක්වා

1975-2013 අතර කාලයේ සිංහල මාධ්‍ය දර්ශනපති උපාධි නිබන්ධ 189ක් ඉදිරිපත් වී ඇති අතර සෑම කාලයක දී ම සමාන නිබන්ධ සංඛ්‍යාවක් අධ්‍යාපන පීඨයට ඉදිරිපත් වී නොමැත. 1980-1984 කාලය තුළ දී නිබන්ධ ඉදිරිපත් කිරීමේ වර්ධනයක් සිදු වී ඇත.

මුල් පිටු සහ අවසාන පිටු ඉදිරිපත් වන ශෛලිය

නිබන්ධවල මුල් පිටු සහ අවසාන පිටු ඉදිරිපත් වන ශෛලි වෙන් වෙන් ව පියවර දෙකකින් ඉදිරිපත් කරන ලදී.

මුල් පිටු ඉදිරිපත් වන ශෛලිය

නිබන්ධවලට පොදු වූ මුල් පිටු 11ක් හඳුනා ගත් අතර එසේ හඳුනා ගත් මුල් පිටු වන්නේ, මාතෘකාව සහ නම සහිත මුල් පිටුව, ප්‍රකාශය, ස්තුතිය, සාරාංශය, පටුන, වගු නාමාවලිය, සටහන් හා රූප සටහන් නාමාවලිය, කෙටි යෙදුම්, පිදුම, හැඳින්වීම සහ පෙරවදන ය. නිබන්ධවල මුල් පිටු අංක කිරීමේ රටා 3කි. නිබන්ධවලින් 88.88%ක රෝම ඉලක්කම් යොදා ඇත. 1.05%ක හින්දු අරාබි ඉලක්කම් යොදා ඇත. 10.05%ක මුල් පිටු අංක කර නැත.

අවසාන පිටු ඉදිරිපත් වන ශෛලිය

නිබන්ධවල අවසාන පිටු වශයෙන් හඳුන්වන්නේ නිබන්ධවල උපග්‍රන්ථ යටතේ දැක්වෙන ආශ්‍රිත ග්‍රන්ථ නාමාවලිය සහ ඇමුණුම් අඩංගු පිටු ය. නිබන්ධවල උපග්‍රන්ථ ඉදිරිපත් කොට ඇති ආකාර දෙකකි. නියැදියෙන් 54.49%ක පළමු ව ආශ්‍රිත ග්‍රන්ථ නාමාවලිය දක්වා ඇත. නියැදියෙන් 44.97%ක දෙවනු ව ආශ්‍රිත ග්‍රන්ථ නාමාවලිය හා පළමු ව ඇමුණුම් දක්වා ඇත. නිබන්ධවල අවසාන පිටු අංක කිරීමේ ක්‍රමය අනුව එහි රටා තුනකි. නිබන්ධවලින් 5.29%ක රෝම ඉලක්කම් යෙදී ඇත. 85.18%ක හින්දු අරාබි ඉලක්කම් යොදා ඇත. පිටු අංක සඳහන් නොවන නිබන්ධවල ප්‍රතිශතය 9.52% කි.

ආශ්‍රිත ග්‍රන්ථ නාමාවලිය සඳහන් කරන ආකාරය වෙනස් වූ ආකාරය

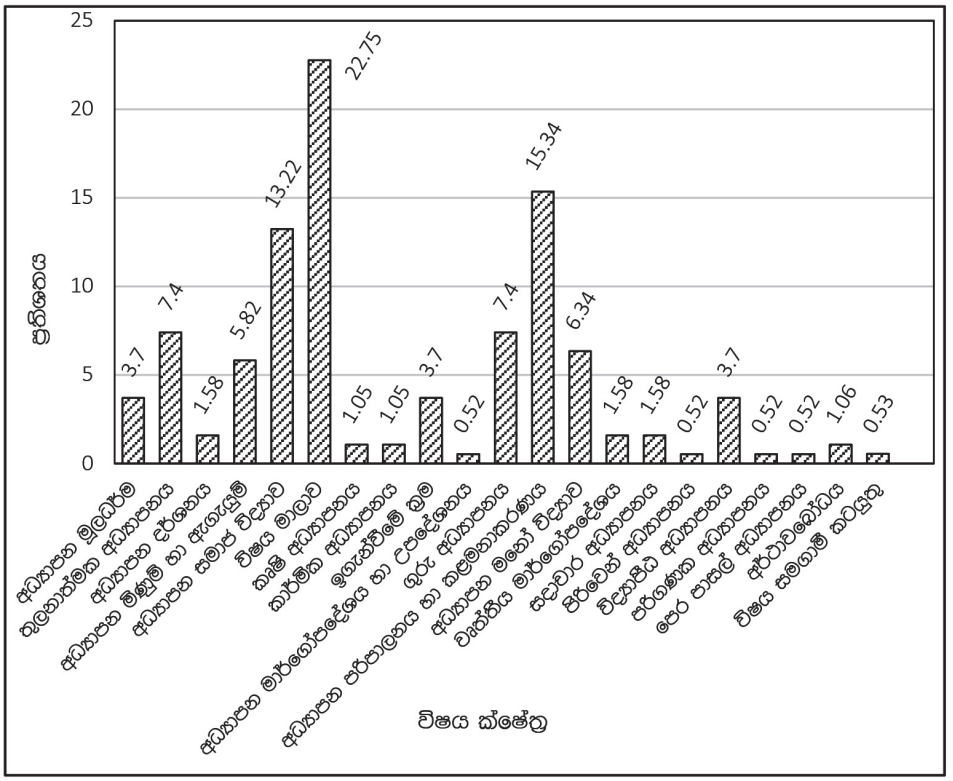
ආශ්‍රිත ග්‍රන්ථ දක්වා ඇති ස්ථාන අනුව එහි ක්‍රම හතරක් හඳුනා ගන්නා ලදී. නිබන්ධය අවසානයේ, පරිච්ඡේද අවසානයේ, සෑම පිටුවකට පහළින්, පරිච්ඡේද අවසානයේ සහ සෑම පිටුවකට පහළින් වශයෙනි. සමස්ත නිබන්ධ සංඛ්‍යාවට සාපේක්ෂ ව නිබන්ධය අවසානයේ දැක්වූ ආශ්‍රිත ග්‍රන්ථවල ප්‍රතිශතය 100% කි. සමස්ත නිබන්ධ සංඛ්‍යාවට සාපේක්ෂ ව 37.57%ක් ම පරිච්ඡේද අවසානයේ ආශ්‍රිත ග්‍රන්ථ නාමාවලිය දක්වා ඇත. එසේ ම සෑම පිටුවකට පහළින් 6.88%ක් ද පරිච්ඡේද අවසානයේ සහ සෑම පිටුවකට පහළින් 0.53% ක් ද දක්වා ඇත. නිබන්ධවල හඳුනා ගැනීමට හැකි වූ ආශ්‍රිත ග්‍රන්ථ නාමාවලිය දැක්වීමේ ශෛලීන් 14කි.

පරිච්ඡේද බෙදීමෙහි වෙනසක් වූ ආකාරය

නිබන්ධවල පරිච්ඡේද බෙදී ගිය රටා හතරක් හඳුනා ගැනීමට හැකි විය. සමස්ත නියැදියට සාපේක්ෂ ව නිබන්ධවල පරිච්ඡේද බෙදීමේ පළමු වන ක්‍රමය ලෙස හඳුනා ගත හැකි වූ ක්‍රමයේ පරිච්ඡේද බෙදීමේ දී පළමු වන පරිච්ඡේදය හැඳින්වීම සඳහාත්, දෙ වන පරිච්ඡේදය සාහිත්‍ය විමර්ශනය සඳහාත්, තෙවන පරිච්ඡේදය අධ්‍යයන ක්‍රම පිළිවෙත සඳහාත්, සිව් වන පරිච්ඡේදය දත්ත විශ්ලේෂණය සඳහාත්, පස් වන පරිච්ඡේදය නිගමන හා යෝජනා සඳහාත් වෙන් කොට ඇති අතර නියදියෙන් 8.47%ක චම ක්‍රමය භාවිත කොට ඇත. පරිච්ඡේද ඉදිරිපත් කිරීමේ දෙවන ක්‍රමය වශයෙන් හඳුනා ගත්තේ නිබන්ධය මූලික පරිච්ඡේද පහකට හෝ හයකට බෙදා, අදාළ නිබන්ධ මාතෘකාවට අදාළ ලේඛන මූලාශ්‍ර තොරතුරු පළමු පරිච්ඡේද හතරෙන් ඉදිරිපත් කිරීමත්, පස් වන පරිච්ඡේදයේ දී චම පර්යේෂණයට අදාළ ඇගැයුම් හා නිගමන ඉදිරිපත් වීමත් ය. එහි ප්‍රතිශතය නිබන්ධ සංඛ්‍යාවෙන් 12.17%කි. පර්යේෂණයට හසු වූ නිබන්ධවල භාවිත පරිච්ඡේද බෙදීමේ තෙවන ක්‍රමයට අනුව පරිච්ඡේද බෙදීමේ දී පළමු වන පරිච්ඡේදය හැඳින්වීම සඳහාත්, දෙ වන පරිච්ඡේදය සාහිත්‍ය විමර්ශනය සඳහාත්, තෙ වන පරිච්ඡේදය අධ්‍යයන ක්‍රම පිළිවෙත සඳහාත්, සිව් වන පරිච්ඡේදය දත්ත විශ්ලේෂණය සඳහාත්, පස් වන පරිච්ඡේදය නිගමන හා යෝජනා සඳහාත් වශයෙන් පරිච්ඡේද පහකට වෙන් කොට ඇත. එහි ප්‍රතිශතය නිබන්ධවලින් 40.22%කි. පරිච්ඡේද බෙදීමේ හතර වන ක්‍රමයට අනුව පරිච්ඡේද බෙදීමේ දී පළමු වන පරිච්ඡේදය හැඳින්වීම සඳහාත්, දෙ වන පරිච්ඡේදය සාහිත්‍ය විමර්ශනය සඳහාත්, තෙ වන පරිච්ඡේදය අධ්‍යයන ක්‍රම පිළිවෙත සඳහාත්, හතර වන පරිච්ඡේදය අද්‍යතන අධ්‍යයනය සඳහාත්, පස් වන පරිච්ඡේදය දත්ත විශ්ලේෂණය සඳහාත්, හය වන පරිච්ඡේදය නිගමන හා යෝජනා සඳහාත් වෙන්කොට ඇත. නියදියෙන් 39.15% ක ප්‍රතිශතයක් චම ක්‍රමය භාවිත කොට ඇත.

අවධාරණය වූ විෂය ක්ෂේත්‍ර වෙනස් වූ ආකාරය

නිබන්ධවලින් අවධාරණය වූ විෂය ක්ෂේත්‍ර වෙනස් වූ ආකාරය හඳුනා ගැනීමේ දී පෙර සාහිත්‍ය අධ්‍යයනයෙන් හඳුනා ගත් විෂය ක්ෂේත්‍ර 21ක් යටතේ නිබන්ධ වර්ග කරන ලදී (2 වන රූපය).



2 වන රූපය. විෂය ක්ෂේත්‍ර අනුව නිබන්ධවල ව්‍යාප්තිය

ඒ අනුව නිබන්ධ 43ක් එනම් 22.75%ක් ඉදිරිපත් වී ඇත්තේ විෂය මාලාව යටතේ ය. විෂයමාලාව විෂය ක්ෂේත්‍රය යටතේ ගොනු වූ බුද්ධ ධර්මය, සමාජ අධ්‍යයනය, සිංහල, ගණිතය, භූගෝල විද්‍යාව, ප්‍රාථමික අධ්‍යාපනය, විද්‍යාව, වාණිජ්‍ය යන විෂයයන් අටක් ද හඳුනා ගැනීමට හැකි විය. එහි සිංහල විෂයය අවධාරණය වූ නිබන්ධවල ප්‍රතිශතය 30.23%කි.

භාවිත වූ පර්යේෂණ සුසමාදර්ශ වෙනස් වූ ආකාරය

නිබන්ධ සන්ධාර විශ්ලේෂණයට බදුන් කළ විට භාවිත වූ පර්යේෂණ සුසමාදර්ශ විස්තරාත්මක හා ගුණාත්මක වශයෙන් කොටස් දෙකක් යටතේ ගොනු කළ හැකි විය. නිබන්ධවලින් 41.26%ක විස්තරාත්මක පර්යේෂණ සුසමාදර්ශය භාවිත වී ඇත. ගුණාත්මක පර්යේෂණ සුසමාදර්ය භාවිත වූ නිබන්ධ මුළු නිබන්ධ සංඛ්‍යාවෙන් 1.58%කි. සුසමාදර්ශය සඳහන් නොවන නිබන්ධ සංඛ්‍යාවේ ප්‍රතිශතය 57.14%කි.

භාවිත වූ පර්යේෂණ ක්‍රමවේද වෙනස් වූ ආකාරය

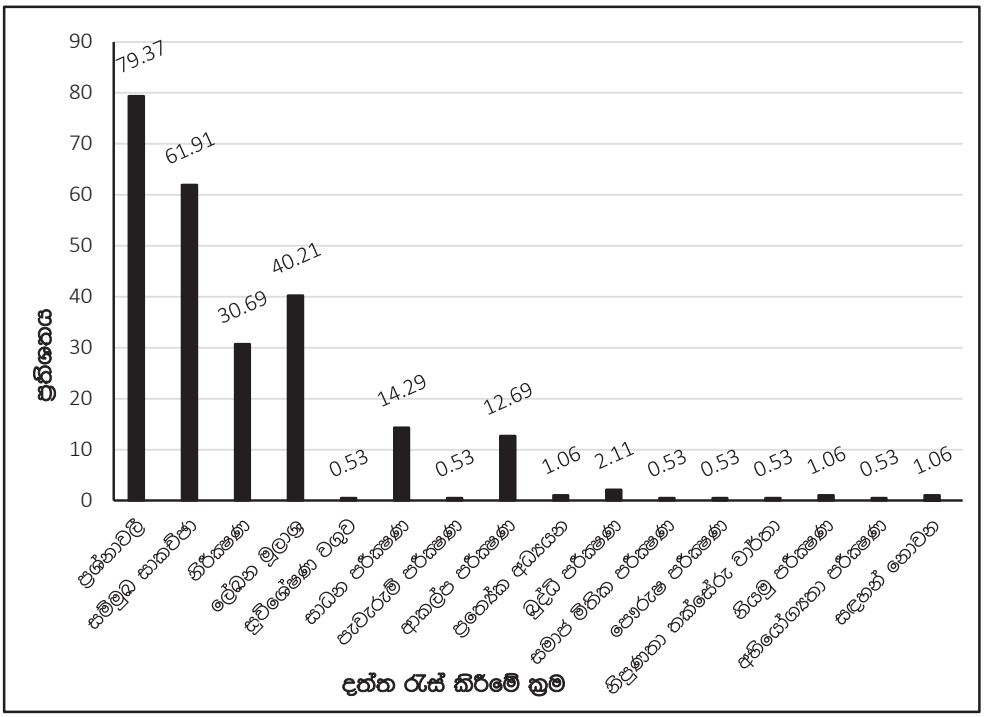
සන්ධාර විශ්ලේෂණයේ දී නිබන්ධවල භාවිත වූ පර්යේෂණ ක්‍රමවේද 14ක් හඳුනාගත හැකි විය. නියැදියේ වැඩි ම ප්‍රතිශතයක් නිබන්ධ නිම වී ඇත්තේ සමීක්ෂණ පර්යේෂණ ක්‍රම ශිල්පය අනුව ය (2 වන වගුව).

2 වන වගුව. *භාවිත වූ පර්යේෂණ ක්‍රමවේද අනුව නිබන්ධවල ව්‍යාප්තිය*

භාවිත වූ පර්යේෂණ ක්‍රමවේද	කාලය								එකතුව	ප්‍රතිශතය (%)
	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2013		
සමීක්ෂණ	3	10	11	5	10	10	7	3	59	31.22
ඉතිහාස	-	1	1	1	3	2	-	-	8	2.23
ලේඛන මූලාශ්‍ර	-	3	1	-	-	1	-	-	5	2.65
සම්පරීක්ෂණ	-	-	-	-	1	-	-	-	1	0.53
හරස්කඩ අධ්‍යයන	-	-	-	-	1	-	-	-	1	0.53
ක්ෂේත්‍ර	-	1	-	-	-	-	-	-	1	0.53
සමාජ විද්‍යා	-	1	2	1	-	1	-	-	5	2.65
ප්‍රත්‍යේක අධ්‍යයන	-	1	-	-	-	-	2	-	3	1.59
දාර්ශනික පර්යේෂණ	-	1	-	-	-	-	-	-	1	0.53
ලේඛන විශ්ලේෂණ	-	-	-	-	1	-	-	-	1	0.53
හේතු සංසන්දනාත්මක	-	-	-	-	1	-	-	-	1	0.53
මානව වංශ විවරණ	-	-	-	-	-	1	-	-	1	0.53
ක්‍රියාකාරී සහභාගීත්ව	-	-	-	-	-	1	-	-	1	0.53
කාර්යමූලික පර්යේෂණ	-	-	-	-	1	-	-	-	-	0.53
සඳහන් නොවන	1	26	10	6	22	20	10	5	100	52.91
එකතුව	**4**	**44**	**25**	**13**	**40**	**36**	**19**	**8**	**189**	**100**

දත්ත රැස් කිරීමේ ක්‍රම වෙනස් වූ ආකාරය

දත්ත රැස් කිරීමේ ක්‍රම 15ක් පිළිබඳ ව හඳුනා ගත හැකි විය. දත්ත රැස් කිරීමේ දී නියැදියෙන් 79.37%ක් ම භාවිත කොට ඇත්තේ ප්‍රශ්නාවලී ය. 2010--2013 කාලයට අයත් නිබන්ධ සියල්ල ම දත්ත රැස් කිරීමේ දී ප්‍රශ්නාවලී යොදාගෙන ඇත. දත්ත රැස් කිරීමේ දෙ වන ප්‍රචලිත ම ක්‍රමය වී ඇත්තේ සම්මුඛ සාකච්ඡා ය. සමස්ත නියැදියට සාපේක්ෂ ව එහි ප්‍රතිශතය 61.91%කි. 2010-.--2013 කාලයට අයත් නිබන්ධවලින් 87.5%ක් ම එම ක්‍රමය භාවිත කොට ඇත. එම ක්‍රමය අඩුවෙන් ම යොදා ගෙන ඇත්තේ 1975--1979 කාලයේ දී ය. එහි ප්‍රතිශතය 25%කි (3 වන රූපය).



දත්ත විශ්ලේෂණ ක්‍රම වෙනස් වූ ආකාරය

නිබන්ධ අධ්‍යයනයෙන් දත්ත විශ්ලේෂණය කිරීමේ ක්‍රම 29ක් හඳුනා ගත හැකි විය. 1978--2013 කාලයට අයත් නිබන්ධවලින් 74.6%ක් ප්‍රස්තාර භාවිත කොට ඇත. 2010--2013 කාලයට අයත් නිබන්ධවලින් 62.5% ක් ප්‍රස්තාර භාවිත කොට ඇත. ප්‍රතිශත භාවිතය නිබන්ධවලින් 74.07%කි. 2010--2013 කාලයට අයත් නිබන්ධවල ප්‍රතිශත භාවිතය 100%කි. දත්ත විශ්ලේෂණ ක්‍රමයක් ලෙස වගු භාවිත කළ නිබන්ධවල ප්‍රතිශතය 51.32%කි. නියැදියට සාපේක්ෂ ව සංඛ්‍යා විද්‍යානුකූල ක්‍රමය භාවිත කළ නිබන්ධවල ප්‍රතිශතය 19.04%කි. 1995--1999 කාලයේ දී පරීක්ෂා දත්ත විශ්ලේෂණ ක්‍රමය සමස්ත නිබන්ධ නියැදියෙන් 1.05% ක ප්‍රතිශතය භාවිත කර ඇත. 2005---2009 කාලයට අයත් නිබන්ධ දෙකක දත්ත විශ්ලේෂණයේ දී SPSS, SYSTAT පරිගණක පැකේජ භාවිත කොට ඇති අතර එහි ප්‍රතිශතය 2.11%කි. බොහෝ නිබන්ධ දත්ත විශ්ලේෂණයේ දී භාවිත කළ ප්‍රමුඛ ක්‍රමවේද වන්නේ ප්‍රස්තාර හා ප්‍රතිශත භාවිතයයි. ඒවා විස්තරාත්මක

දත්ත විශ්ලේෂණ ක්‍රමයට අයත් ය. එසේ ම Zන්‍යාය, ස්පියර්මන්ගේ තරා පටිපාටිය, χ^2 පරීක්ෂණය යන ක්‍රම ද දත්ත විශ්ලේෂණයේ දී භාවිත කොට ඇත. ඒවා සංඛ්‍යා විද්‍යාත්මක ව දත්ත විශ්ලේෂණය කිරීමේ ක්‍රමයට අයත් ය.

පර්යේෂණ අනාවරණ සහ යෝජනා

1978 සිට 2013 දක්වා ඉදිරිපත් වී ඇත්තේ දර්ශනපති නිබන්ධ 189කි. එම නිබන්ධවල මුල් පිටු නම් කිරීමේ දී නිබන්ධ සියල්ල ම එක ම ක්‍රමය භාවිත කොට නොමැත. නිබන්ධවල මුල් පිටු අංක කිරීමේ දී රටා තුනක් අනුගමනය කර ඇති අතර බහුල ව අනුගමනය කර ඇත්තේ රෝම ඉලක්කම් යෙදීමේ රටාව ය. නිබන්ධවල උපග්‍රන්ථ දැක්වීමේ රටා දෙකක් ද අවසාන පිටු අංක කිරීමේ රටා තුනක් ද නිබන්ධ පරිච්ඡේද බෙදීමේ දී රටා හතරක් ද ආශ්‍රිත ග්‍රන්ථ දැක්වීමේ ස්ථාන අනුව රටා හතරක් ද අනුගමනය කර ඇත. ආශ්‍රිත ග්‍රන්ථ සටහන් කිරීමේ ක්‍රම 14ක් භාවිත කර ඇති අතර නිබන්ධවල ව්‍යාප්තිය විෂය ක්ෂේත්‍ර 21ක් තුළ ව්‍යාප්ත වන බව ද අනාවරණය විය. වැඩි ම නිබන්ධ සංඛ්‍යාවක් විෂයමාලාව විෂය ක්ෂේත්‍රයෙන් ඉදිරිපත් වී ඇති අතර වැඩි ම නිබන්ධ සංඛ්‍යාවක් ඉදිරිපත් වී ඇත්තේ විස්තරාත්මක පර්යේෂණ ප්‍රවේශයෙන් ය. නිබන්ධ භාවිත කළ පර්යේෂණ ක්‍රම ශිල්ප සංඛ්‍යාව 14කි. එහි දී සමීක්ෂණ පර්යේෂණ ක්‍රම ශිල්පය බහුල ව ම භාවිත කොට ඇත. එහෙත් නිබන්ධවලින් 52.91%ක භාවිත කළ පර්යේෂණ ක්‍රමවේදය සඳහන් වන්නේ නැත. දත්ත රැස් කිරීමේ දී ක්‍රම 15ක් අනුගමනය කර ඇති අතර දත්ත රැස් කිරීමේ ප්‍රමුඛ ක්‍රමය වී ඇත්තේ ප්‍රශ්නාවලී ය. දත්ත විශ්ලේෂණයට ක්‍රම 29ක් යොදා ගෙන ඇති අතර දත්ත විශ්ලේෂණය කිරීමේ ප්‍රමුඛ ක්‍රමය වී ඇත්තේ ප්‍රස්තාර ය.

යෝජනා

1. සෑම නිබන්ධයකට ම පටුන අන්තර්ගත කළ යුතු ය.
2. භාෂා ගැටලුවකින් තොරව ඕනෑ ම පර්යේෂකයකුට සාරාංශය කියවීමට හැකිවන පරිදි සාරාංශය සිංහලෙන් සහ ඉංග්‍රීසියෙන් යන භාෂා මාධ්‍ය දෙකෙන් ම ඉදිරිපත් කිරීම සුදුසු ය.
3. පරිච්ඡේද බෙදීම පිළිගත් නිශ්චිත ක්‍රමයකට අනුව පමණක් සිදු විය යුතු ය.
4. ආශ්‍රිත ග්‍රන්ථ දැක්වීමේ දී පිළිගත් එක් ක්‍රමයකට ආශ්‍රිත ග්‍රන්ථ දැක්විය යුතු ය.
5. සෑම නිබන්ධයක ම භාවිත කළ පර්යේෂණ ක්‍රමවේදය පැහැදිලි ව සඳහන් කළ යුතු ය.

ආශ්‍රිත ග්‍රන්ථ හා පර්යේෂණ ලිපි මාලාව

Alwis, N.A.W.A.T. (1993). *University of Peradeniya: Index to theses 1942-1992 (1993).* University of Peradeniya.

Amarasinghe, N. (1971). *Theses presented for higher degrees of the University of Ceylon (1942-1971):* A classified list with author and title index. University of Ceylon Library Publications.

Bernard, H.R., & Ryan, G.W. (2010). *Analysing qualitative data*: *systematic approaches.*Los Angeles: Sage.

Bos, W., & Tarnai, C. (1999). *Content analysis in educational research*. Journal of Educational Research, Vol. 31, 8. Pergamon.

Bui, N.Y. (2009). *How to write a master's thesis*, CA: Sage publications.

Gunawardena, G.B. (1987). *Review of research on determinants of effective school- SriLanka*. Sponsored By Bridges, NEC, and MoE. RD, N.I.E. (Unpublised)

Holsti, O.R. (1969). *Content analysis for the social sciences*. www.questia.

Kodagoda, S. (1992*). Bibliography of educational reports on Sri Lanka from 1796-1986 with an analysis of post-graduate theses on education up to 1982.* Colombo: Sri Lanka National Library Services Board.

Kothari, C.R. (1995). *Research methodology: methods and techniques*. New Delhi: Wishwaprakashan.

Koul, L. (1993). *Methodology of educational research*. New Delhi: Vikas Publishing House.

Krippendorff, K. (1980). *Content analysis: An introduction to its methodology*. Beverly Hills:

National Education Research and Evaluation Centre, Faculty of Education (2003). *Abstracts of post graduate educational research in Sri Lanka,* Colombo: National Education Research and Evaluation Centre, Faculty of Education, University of Colombo.

National Library and Documentation Services Board (2012*). Index to postgraduate theses 2007-2010,* VOL-1 14, Independence Avenue, Colombo 07, Sri Lanka.

Reichardt, C.S., & Cook, T.D. (1979). *Beyond qualitative versus quantitative research*. Deverly Hills: Sage.

Rourke, L., & Szabo, M. (2002). *A content analysis of the journal of distance education. 1986-2001, http//cade.athabasca.ca/* vol. 17 No. 1.

Rourke, L., & Anderson, T. (2004).*Validity in quantitative content analysis.* ETR & D, Vol. 52, No. 1.

Rupasinghe, S., Gunawardane, R., Wijetunge, S., & Kularatne, W. G. (1995). *A historical sketch of the courses offered and research conducted by the faculty of education durind the twenty years of 1975-1995.* Colombo: The University of Colombo.

Schwandt, T.A. (1997). *Qualitative inquiry: A dictionary of terms.*
http://www.amazon.com/Dictionary-Qualitative-Inquiry-Thomas
Spiel, C., Loschnig, B., & Krueger, J. (1999). *Recollection of early gender specific situations*: A cultural comparison between the U.S.A. and Austria, International Journal of Educational Research.

උඩගම, පී. (1969). අධ්‍යාපන පර්යේෂණ. යූ.ඩී.අයි. සිරිසේන (සංස්කාරක)ලංකාවේ අධ්‍යාපනය: සියවස ප්‍රකාශනය, III කාණ්ඩය, කොළඹ: අධ්‍යාපන ප්‍රකාශන දෙපාර්තමේන්තුව.*කොඩිතුවක්කු, ජී. (2012). පර්යේෂණ ලෝකයට පිවිසෙමු.* බත්තරමුල්ල: පර්යේෂණ හා සංවර්ධන ආයතනය.

කොඩිතුවක්කු, ජී., සහ රණතුංග, ආර්.ආර්. (2014). අධ්‍යාපන පර්යේෂණ, ශ්‍රී ලංකා අධ්‍යාපනයේ දශක හතරක විකාශනය. (1969- -2009). මහරගම: පර්යේෂණ සහ සංවර්ධන දෙපාර්තමේන්තුව. ජාතික අධ්‍යාපන ආයතනය.

ජාතික අධ්‍යාපන ආයතනය (1993). ලංකාවේ අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධන නාමාවලිය (1956-- -1992). මහරගම: අධ්‍යාපන පර්යේෂණ දෙපාර්තමේන්තුව.

ජාතික අධ්‍යාපන ආයතනය (2007). ශ්‍රී ලංකාවේ අධ්‍යාපන පශ්චාද් උපාධි නිබන්ධන නාමාවලිය (1956-2006). මහරගම: පර්යේෂණ සහ සංවර්ධන දෙපාර්තමේන්තුව.

CHALLENGES AND REMEDIES IN THE EFICIENT USAGE OF QUALITY INPUTS IN SCHOOLS - A STUDY BASED ON THE SCHOOLS IN TELLIPPALAI DIVISION

Pathmanathan Sasikumar
PGDE (Full Time) student,

Ananthamyl Nithlavarnan,
Lecturer,
Department of Education,
University of Jaffna, SriLanka

Abstract in English

"Quality inputs for quality education" concept has been considered in teaching – learning in the Srilankan education system. There are many issues pertaining to the efficient use of quality inputs. The objectives of the study are to identify the weakness of efficient use of quality inputs and to propose recommendations to promote efficient ways in this process. Eleven schools in the division of Tellippalai among thirty four schools have been choosen for this study. Stratified random sampling method is used for this purpose. Principals, teachers and students have been choosen randomly for the purpose of this study. Questionnaire, observation shedule, Interview shedule and administrative documents have been used for data collection. Collected data have been organised in the form of tables, graphs and percentages for data analysis. The findings in this study show, that there are many issues and problems in relation to efficient use of quality inputs. The problems identified in this study such as inadequate allocation for quality inputs, irregular destribution, timeframe not adopted, negative attitude of principals and teachers, irregular use of inputs, unplanned and weakness procurement, less transparancy practices in accounting, needful lists not submitted, abuse of finance, work load, neglegence in using inputs, biasness, failier in maintaining documents are identified as factors which are responsible for inefficient use of quality inputs. In future, to ensure the efficient use of quality inputs following actions are required: timely release of quality inputs; changing attitudes of teachers and principals petaining to quality inputs; timely distribution and procurement; transparantcy in quality finance; regular supervision and monitory action; promotion of motivation to use quality inputs at school level adequate allocation of time to ensure quality inputs use in curricular managmant at the school.

Key words :- Quality inputs , Efficient use of inputs , Challanges and remedies

பாடசாலைகளில் வினைத்திறனான தரஉள்ளீட்டுப் பயன்படுத்தலிலுள்ள சவால்களும் பரிகாரங்களும்

- தெல்லிப்பழைக் கல்விக் கோட்டப் பாடசாலைகளை அடிப்படையாகக் கொண்ட ஆய்வு.

ஆய்வுச் சுருக்கம்

இலங்கைப் பாடசாலைகளில் கற்றல்-கற்பித்தலில், பாடசாலைக் கல்வி முறையின் பண்பு சார் விருத்திக்காக அறிமுகப்படுத்திய திட்டங்களில் தரமான கல்விக்கான தரமான உள்ளீடுகள் (Quality inputs) முக்கியத்துவம் வாய்ந்ததாக காணப்படுகிறது. அனைத்துப் பாடசாலைகளிற்கும் வழங்கப்படும் தரமான உள்ளீடுகளின் வினைத்திறனான பயன்படுத்தல் தொடர்பான எழுவினாக்கள் இன்று பரவலாக காணப்படுகின்றன. பாடசாலைகளில் தர உள்ளீடுகளை வினைத்திறனாகப் பயன்படுத்துவதில் உள்ள சவால்களை இனங்கண்டு அவை தொடர்பான நலிவான விடயங்களை ஆராய்ந்து வெளிப்படுத்துவதுடன் அவற்றினை மேம்படுத்துவதற்கான விதந்துரைகளை முன்வைப்பதே இவ்வாய்வின் பிரதான நோக்கமாகும்.

இந்த நோக்கத்தை அடைவதற்காக தெல்லிப்பழைக் கல்விக் கோட்டத்தில் அமைந்துள்ள 34 பாடசாலைகளில் 11 பாடசாலைகள் படைகொண்ட எழுமாற்று மாதிரி அடிப்படையில் தெரிவு செய்யப்பட்டுள்ளன. பங்குபற்றுநர்களாக அதிபர்கள், ஆசிரியர்கள், மாணவர்கள் எழுமாற்றாகத் தெரிவு செய்யப்பட்டு வினாக்கொத்து, அவதானிப்பு, நேர்காணல், ஆவணப் பரிசோதனை மூலம் தரவுகள் சேகரிக்கப்பட்டன. பெறப்பட்ட தகவல்களை அட்டவணைப்படுத்தி வரைபுகள், மற்றும் சதவீத புள்ளிப் பகுப்பாய்வு முறை என்பன பயன்படுத்தப்பட்டு விளக்கங்கள் முன்வைக்கப்பட்டுள்ளன.

தரமான உள்ளீட்டு நிதி ஒதுக்கீடுகள் போதாமை, சீராகப் பகிர்ந்தளிக்காமை, உரிய காலப்பகுதிக்குள் வழங்காமை, திட்டமிடப்படாத கொள்வனவுகள், அதிபர் மற்றும் ஆசிரியர்களின் எதிர்மறை மனப்பாங்கு, வகுப்புக்களில் தரஉள்ளீடுகள் முறையாகப் பயன்படுத்தப்படாமை, பொருட்கொள்வனவில் குறைபாடு, வெளிப்படைத்தன்மையுடன் கணக்குகள் பேணப்படாமை, தேவைப்பட்டியல் ஒப்படைக்காமை, நிதிமுறைகளில் மோசடி, காலம் பிந்திய விநியோகம், வேலைப்பளு, பாவனையில் ஆர்வமின்மை, பக்கச்சார்பு, ஆவணம் பேணலில் குறைபாடு போன்றன பாடசாலைகளில் தர உள்ளீடுகளின் வினைத்திறனான பயன்படுத்தலுக்குத் தடையாக உள்ளமை இவ்வாய்வின் மூலம் கண்டறியப்பட்டுள்ளது. அதன் அடிப்படையில் தர உள்ளீடுகளின் பயன்பாட்டை மேம்படுத்தல் தொடர்பான விதந்துரைகள் முன்வைக்கப்பட்டுள்ளன.

முதன்மைச் சொற்கள் :- தரமான உள்ளீடுகள், வினைத்திறனான பயன்பாடு, சவால்களும் பரிகாரங்களும்.

1. அறிமுகம்

பாடசாலைகளில் கற்றல் - கற்பித்தலை இலகுபடுத்தவும் கல்விச் செயற்பாட்டின் பண்புத்தர விருத்தியை மேம்படுத்தவுமென பாடசாலைக்கான நிதி ஒதுக்கீடுகள்" தர உள்ளீடுகள்" (Quality inputs) எனும் பெயரில் 2000 ஆம் ஆண்டு தொடக்கம் பாடசாலைகளுக்கு வழங்கப்பட்டு வருகின்றன. அந்தவகையிலே "**பாடசாலைகளில் வினைத்திறனான தர உள்ளீட்டுப் பயன்படுத்தலிலுள்ள சவால்களும் பரிகாரங்களும்**" என்ற தலைப்பில் தெல்லிப்பழைக் கல்விக் கோட்டப்பாடசாலைகளை அடிப்படையாகக் கொண்டு இவ்வாய்வானது மேற்கொள்ளப்பட்டது.

2. ஆய்வுப் பின்னணி

எப்பொழுது கற்றல் என்பது ஆரம்பமாகியதோ அப்பொழுதே அக்கற்றலுக்கான துணைச்சாதனங்களின் பயன்பாடும் ஆரம்பித்து விட்டது. இலங்கை அரசானது ஆங்கிலேயரின் காலணித்துவ ஆட்சியில் இருந்து விடுபட்டு சுதந்திரத்தைப் பெற்றபின் கல்வியின் பண்புத்தர விருத்திக்கு அதிக முக்கியத்துவம் கொடுத்து வருகின்றது. அந்தவகையிலே 'அனைவருக்கும் கல்வி', 'இலவசக்கல்வி', 'கட்டாயக்கல்வி', 'கல்வியில் சமவாய்ப்பு', மற்றும் 'தரமான கல்வி' எனப் பல்வேறுபட்ட குறிக்கோள்களின் அடிப்படையில் இன்றுவரை செயற்பட்டு வருகின்றது. 1948 ஆம் ஆண்டு இலங்கை சுதந்திரம் அடைந்தபொழுது C.W.W. கன்னங்கரா அவர்கள் இலவசக்கல்வி முறையை அறிமுகம் செய்து வைத்தார். அத்துடன் மிசனெறிகளின் செல்வாக்கின் கட்டுப்பாட்டில் இருந்த பாடசாலைகள் உட்பட அனைத்துப் பாடசாலைகளையும் அரசு பொறுப்பேற்றது தொடக்கம் கல்வித் துறையிலே பல பயனுள்ள மாற்றங்களை உட்புகுத்தினார்.

அந்தவகையிலே மாணவர்களுக்கான இலவசக்கல்வி, இலவச மதிய உணவுத் திட்டம், இலவச சீருடை, இலவசப் பௌதிக வள உதவி, மாணியப் போக்குவரத்து, மற்றும் சுகாதார நடவடிக்கை இணைப்பு போன்ற கல்விப்புல மேம்பாட்டு நலன்புரி நடவடிக்கைகள் இன்றும் முன்னெடுக்கப்பட்டு வருகின்றன. அந்தவரிசையிலே, மாணவர்களின் கற்றல் செயன்முறைகளை இலகுபடுத்தும் நோக்கில் பண்புத்தர விருத்திக்காக அறிமுகம் செய்யப்பட்ட நடவடிக்கையே 'தரஉள்ளீடுகள்' ஆகும். பாடசாலையில் வகுப்பறைச் செயன்முறையோடு மட்டும் மட்டுப்படுத்தப்படாது முழுப்பாடசாலையையும் உள்ளடக்கிய பல்வேறு தேவைகளுக்கு பயன்படுத்தக்கூடிய நிதிவடிவிலான ஒரு செயன்முறையாகவே இது அறிமுகப்படுத்தப்பட்டது. இந்நிதிப் பயன்பாடு தொடர்பாக காலத்துக்கு காலம் செயலமர்வுகள், சுற்றறிக்கைகள் மூலமான வழிகாட்டல்கள் எனப்பல்வேறுபட்ட முன்னேற்ற நடவடிக்கைகள் மேற்கொள்ளப்பட்டு வந்துள்ளன. எனினும் இன்றுவரையும் இந்நிதியைக் கையாளல், பயன்படுத்தல், பயன்படுத்தும் நோக்கம், கிடைப்பனவு, பயன்பாட்டில் வெளிப்படைத் தன்மை, சரியான ஒதுக்கீடு, வினைத்திறனான பயன்பாடு எனப் பல்வேறு வகைகளிலே பிரச்சினைகள் சமகாலத்தில் தொடர்ந்த வண்ணமே உள்ளன. தர உள்ளீட்டினை வினைத்திறனாகப் பயன் படுத்துவதில் காணப்படுகின்ற தடைகளை இனங்கண்டு அவற்றினை இழிவளவாக்கிக் கொள்ளும் நடைமுறைச் சாத்தியமான தீர்வுகளை முன்வைப்பதனையும் நோக்காகக் கொண்டே இவ்வாய்வு முன்னெடுக்கப் பட்டது.

3. ஆய்வுப்பிரச்சினை

மாணவரின் கற்றலை மேம்படுத்தவும், இலகுபடுத்தவும், கற்றலில் விருப்பை ஏற்படுத்தவும், மற்றும் கற்றலை விரைவுபடுத்தவும் உதவுகின்ற வகையிலே தர உள்ளீட்டு நிதிகள் வருடா வருடம் பாடசாலைகளுக்கு கல்வி அமைச்சினால் ஒதுக்கப்படுகின்றன. பயன்பாட்டுரீதியில் பாடசாலைகளுக்கென ஒதுக்கப்படும் தர உள்ளீட்டு நிதிதொடர்பாக பாடசாலை வகை, பாடங்கள், மற்றும் தரங்கள், ஆகியவற்றுக்கிடையே தர உள்ளீட்டினைப் பயன்படுத்தல் தொடர்பான குறைபாடுகள், சவால்கள் இன்று அதிகளவில் காணப்படுகின்றன. நடைமுறை ரீதியான பல்வேறு சவால்கள் ஆய்வாளர்களால் இனங்காணப்பட்டுள்ளன:

* தரஉள்ளீட்டு நிதி ஒதுக்கீட்டில் பாடசாலைக்கு பாடசாலை பாகுபாடு மற்றும் சமமின்மை, காணப்படுகின்றது.
* பாடசாலைகளில் அனைத்து வகுப்புக்களிற்கும் சீராகப் பகிர்ந்தளிக்கப்படுவதில்லை.
* தரஉள்ளீடுகள் ஆரம்ப மற்றும் இடைநிலை வகுப்புக்களிற்கு முழுமையாகக் கிடைப்பதில்லை.
* பாடசாலைகளில் தர உள்ளீட்டு நிதிகள் முழுமையாக பயன்படுத்தப்படுவதில்லை.
* தரஉள்ளீடுகள் தொடர்பான பதிவேடுகள் சீராகப் பேணப்படாமை.
* தரஉள்ளீட்டுப் பாவனை தொடர்பான மேற்பார்வை மற்றும் கண்காணிப்பில் பல குறைபாடுகள் காணப்படுகின்றமை.
* உரிய காலப்பகுதியில் நிதி ஒதுக்கீடின்மையும் தேவையான நேரத்தில் பயன்படுத்தாமையும்.
* ஆசிரியர்களின் எதிரான மனப்பாங்கும் தரஉள்ளீட்டுப் பாவனையில் ஆர்வம் இன்மையும்.
* அழிபொருள் நிதிமூலத்தினை நிலையான பொருளுக்குப் பயன்படுத்தல்.

4. ஆய்வுக்கான நியாயப்பாடு

2000 ஆம் ஆண்டில் இருந்து இலங்கை முழுவதும் உள்ள பாடசாலைகளுக்கு தர உள்ளீடுகள் வழங்கப்பட்டு வருகின்றன. காலத்திற்கு காலம் பல்வேறு சுற்றறிக்கைகள் மூலம் இதனை வினைத்திறனாக நடைமுறைப்படுத்த, பல்வேறு நடவடிக்கைகள் மேற்கொள்ளப்பட்ட போதும் நிதி ஒதுக்கீடுகள், கொள்வனவுகள், பகிர்ந்தளிப்புக்கள், பயன்பாடுகள், நடைமுறைப்படுத்தல்கள், ஆவணப் பேணல்கள் என்பனவற்றில் குறைபாடுகளையும் பிரச்சினைகளையும் இனங்கண்டு வெளிப்படுத்துவதன் மூலம், தரஉள்ளீட்டுப் பாவனையை எதிர்காலத்தில் மேம்படுத்த முடியும். அத்துடன் மாணவரின் கற்றலிலும், மதிப்பீட்டிலும் உரிய மாற்றங்களை பண்புரீதியாக அடையலாம் என்ற வகையில் இவ்வாய்வு மேற்கொள்ளப்பட்டது.

5. ஆய்வின் குறிக்கோள்கள்

1. பாடசாலைகளில் தரமான உள்ளீட்டுப் பயன்பாட்டையும் அது தொடர்பான பின்னணியையும் அறிதல்.
2. பாடசாலைகளில் தரமான உள்ளீட்டுப் பயன்பாடு தொடர்பான சவால்களை இனங்காணல்.
3. பாடசாலைகளில் வினைத்திறனான தர உள்ளீட்டுப் பயன்பாட்டுக்கான சிபார்சுகளை முன்வைத்தல்.

6. ஆய்வு வினாக்கள்

1. பாடசாலைகளில் தரமான உள்ளீட்டுப் பயன்பாடு தொடர்பான நடைமுறைகள் எவ்வாறுள்ளன?
2. பாடசாலைகளில் தரமான உள்ளீடுகளை வினைத்திறனாகப் பயன்படுத்துவதில் உள்ள தடைகள் எவை?
3. தரமான உள்ளீடுகளை பாடசாலைகளில் வினைத்திறனாகப் பயன்படுத்த எத்தகைய நடவடிக்கைகளை மேற்கொள்ளலாம்?

7. ஆய்வு வரையறை

இவ்வாய்வின் வரையறைகளாக பின்வருவன அமைகின்றன.

1. தரமான உள்ளீடுகள் தொடர்பாக இலங்கை கல்வி அமைச்சினால் வழங்கப்படும் நிதி மட்டுமே இவ்வாய்வில் கவனத்தில் கொள்ளப்பட்டுள்ளது.
2. தெல்லிப்பழைக் கோட்டத்தில் காணப்படுகின்ற 34 பாடசாலைகளில் 11 பாடசாலைகள் மட்டுமே ஆய்வுக்குட்படுத்தப்பட்டன.

8. இலக்கிய மீளாய்வு

எந்த ஒரு ஆய்வும் நிறைவானதாகவும் உண்மையான முடிவுகளை வெளிக்காட்டுவதாகவும் அமைய வேண்டுமெனில் இலக்கிய உசாவல் அவசியம் என 'டாம்' மற்றும் 'டார்னே' ஆகிய ஆய்வாளர்கள் (1971) குறிப்பிடுகின்றனர். அந்தவகையில் தரஉள்ளீடுகளை வினைத்திறனாகப் பயன்படுத்துவதிலுள்ள சவால்களும் தீர்வுகளும் என்ற தலைப்புக்கு ஏற்ப

1. தரமான உள்ளீடுகள்
2. கற்றல் - கற்பித்தல்களின் தர உள்ளீட்டின் தேவைகள்
3. கற்பித்தல் சாதனம் பற்றிய புரோபல் அவர்களின் கருத்து
4. கற்பித்தல் சாதனம் பற்றிய ரூசோ அவர்களின் கருத்து
5. கற்பித்தல் சாதனங்கள் தொடர்பான கலைத்திட்ட முகாமைத்துவத்தின் கருத்து
6. தர உள்ளீட்டு பிரச்சினைகள் தொடர்பான கல்வியியலாளர்களின் கருத்துக்கள்
7. தரமான கல்வி உள்ளீடுகளும் எண்ணக்கரு விளக்கமும்

ஆகிய வகைகளின் கீழே இலக்கிய உசாவல் தகவல்கள் முன்வைக்கப்படுகின்றன. தர உள்ளீடுகளின் வினைத்திறனான பயன்பாட்டில் உள்ள சவால்களிற்கான தீர்வுகளை முன்னெடுக்கும் போது 'தரமான உள்ளீடுகள்' என்பதனை வரையறை செய்து கொள்வது என்பது பிரதானமானதாகும்.

ஆசிரியரின் கற்பித்தலை வலுப்படுத்தவும் மாணவரின் கற்றல் செயன்முறையினை மேம்படுத்தவும் கல்வி அமைச்சினால் 2000 ஆம் ஆண்டில் இருந்து தரமான கல்வி உள்ளீடுகள் அறிமுகம் செய்யப்பட்டு இன்றுவரை அமுலில் இருந்து வருகின்றது. தரமான கல்வி உள்ளீடுகள் என்பது 'மாணவர்கள் பயிலும் முறைகளிலும் ஆசிரியர்கள் அறிவைப் பகிர்ந்து கொடுக்கும் முறைகளிலும் கல்வியின் தரத்தினை உயர்த்துவதற்கு பயன்படுத்தப்படும் எல்லாப்பொருட்கள், உபகரணங்கள், கருவிகள் மற்றும் சேவைகள்' என வரையறுக்கப்பட்டுள்ளது. (கல்வி அமைச்சு,2000).

கல்வி அமைச்சும், நிதி ஆணைக்குழுவும் இணைந்த வகையில் பின்வரும் அம்சங்களின் அடிப்படையில் நிதி ஒதுக்கீடுகளின் அளவுகள் தீர்மானிக்கப்படுகின்றன.

1. மாணவர் எண்ணிக்கை
2. பாடசாலை வகை
3. விசேட கல்வி அலகு உள்ள பாடசாலைகள்

இந்நிதி ஒதுக்கீடானது 'நியம ஆதார அலகுச் செலவு வள ஒதுக்கீட்டுப் பொறிமுறை– NBUCRAM (NORM BASED UNIT COST RESOURCE ALLOCATION MACHANISM) எனும் அடிப்படையில் பாடசாலைகளுக்கிடையே மேற்கொள்ளப்படுகின்றது.
பத்மாவதி (2010) அவர்கள் குறிப்பிடும்போது பாடப்பொருள் சார்ந்த அறிவினை மட்டும் நோக்காகக் கொண்டு காணப்பட்ட ஆரம்பகால பாடசாலைக் கல்வி நோக்கானது இன்று கற்றல் திறன்களிற்கும் உபாயங்களிற்கும் முக்கியத்துவம் கொடுக்க வேண்டிய நிலை ஏற்பட்டுள்ளது. இவ் அறிவுக்கையளித்தல் சாதனப் பயன்பாடுகளின் முக்கியத்துவத்தினை வெளிப்படுத்துகின்றன எனக்குறிப்பிட்டுள்ளார்.
'மாணவர்களின் கல்வித்தரம், அடைவுமட்டம் என்பவற்றை விருத்தி செய்வதற்கான இடம் வகுப்பறையாகும். எனவே வகுப்பறையினை உயிர்த்துடிப்புள்ளதாக இயங்கக்கூடியதான வளங்கள் காணப்பட வேண்டும்'
இதில் இருந்து வகுப்பறை இயங்குநிலையினை உறுதிப்படுத்துவதற்கு தரமான உள்ளீடுகளின் அவசியம் நன்கு உணர்த்தப்படுகின்றது.

“பெரும்பாலும் வறிய கிராமப் பிரதேசங்களில் அமைந்துள்ள பாடசாலைகளில் ஏறத்தாழ 2000 பாடசாலைகளில் மாணவர் மேசைகள், கதிரைகள், கரும்பலகைகள் போன்ற அடிப்படை வசதிகள் போதாமல் உள்ளன. 3500 பாடசாலைகளில் கணனிகள் இல்லை 500 பாடசாலைகளில் மின்சாரம் இல்லை இங்கு தரமான உள்ளீடுகள் விஞ்ஞானம், கணிதம், ஆங்கிலம் போன்ற பாடங்களிற்கான கற்பித்தல் சாதனங்கள் பற்றாக்குறையாகவே உள்ளன” ஜெயராசா (2008) அவர்கள் உபகரணப் பயன்பாடு பற்றி குறிப்பிடும் போது, புரோபலின் சிறார் பள்ளியில் “பரிசுகளும் தொழில்களும்” (Gifts and Occupations) என்று பெயரிட்டார். பத்துப் பொருட்களை இவர் பரிசுப் பொருட்களாக உருவாக்கினார். மாணவரால் செயற்பாடு கொண்டு இயக்கத்தக்க சிறிய பொருட்களாக அவை அமைந்தன. ஆறுவிதமான வண்ண நூற்பந்துகள், மரப்பந்துகள், சதுரக்கட்டைகள், செவ்வகவடிவ மரக்கட்டைகள், பல்வேறு வடிவங் கொண்ட சிறிய மேசைகள் முதலியவற்றின் ஊடாக அறிவையும் திறன்களையும் முன்னெடுக்க முடியும் எனக் கூறினார்.

பாடசாலையின் வெளிவாரி மதிப்பீட்டில் 08 பிரதான சுட்டிகளில் 03 ஆவது சுட்டியாக அமைவது முறையான கலைத்திட்ட முகாமை ஆகும். இதில் 10 ஆவது நியதி தர உள்ளீட்டுப் பயன்பாடு ஆகும். இவற்றுள் பின்வரும் விடயங்கள் உள்ளடக்கப்பட்டுள்ளன.

* வினைத்திறன் மிக்க கற்றல் செயற்பாட்டிற்கு தர உள்ளீட்டுப் பயன்பாடு தொடர்பாக ஆசிரியரின் கவனத்தை ஈர்த்தல்
* தரமான உள்ளீடுகளை உரிய பிரிவுகளிற்கும் பாடங்களிற்கும் பகிர்ந்தளித்தல்
* பகிர்ந்தளிக்கப்பட்ட தரமான உள்ளீடுகள் தொடர்பாக ஆசிரியர்களுக்கு அறிவுறுத்தல்
* தரமான உள்ளீடுளைப் பெறுவதற்கு முகாமைத்துவ வசதிகளை ஏற்படுத்திக் கொடுத்தல்
* அனைத்து பிரிவுகளிற்கும் பாடங்களிற்கும் பகிர்ந்தளிக்கப்பட்ட நிதியை பாட அபிவிருத்திக்காக பயன்படுத்தல்

கற்றல் செயன்முறையினை (Style) இரு வேறு வகைக்குள்ளே கொண்டு வர முடியும் என ‘கொல்ப்’ என்பவர் குறிப்பிடுகின்றார்.(Kolb, 1976) அவையாவன:

1. தகவல்கள் எவ்வாறு உள்வாங்கப்படுகின்றன என்பவை தொடர்பான புலக்காட்சி கொள்ளல்
2. பெறப்பட்ட தகவல்களை எவ்வாறு உள்வாங்கி நிரலாக்கம் செய்யப்படுகின்றது என்பது தொடர்பான செயன்முறை

மேற்படி இரு செயன்முறைக்கும் தரஉள்ளீட்டு வளங்களின் பிரயோகமே முக்கிய இடம் வகிக்கின்றது. வினைத்திறன் மிக்க பாடசாலைகள் பற்றிய எதிர்பார்ப்புக்கள் நாளுக்கு நாள் அதிகரித்து வருகின்றன. போட்டி மிகுந்த கல்விச்சூழல் தேர்ச்சிமிகு தரமான வெளியீடுகளைத் தர பாடசாலைகள் முயன்று வருகின்றன. பதவி உயர்வு, சம்பள ஏற்றம், இடமாற்றம், பொருத்தமற்ற மேற்பார்வை, பாடசாலை வளங்கள் உரியவாறு ஒதுக்கிக் கொடுக்கப்படாமை காரணமாக ஆசிரியரின் கற்றல் - கற்பித்தல்கள் பாதிக்கப்பட்டுள்ளன. இன்றைய கல்வி விதானத்தில் ஒட்டுமொத்தமாக உச்சரிக்கப்படுவது ‘தரம்’ என்ற எண்ணக்கருவாகும். 21 ஆம் நூற்றாண்டுக்கான கல்வியின் மகுட வாசகமாக ‘தரமேம்பாடு என்ற பதம் கல்வியின் எல்லாச் செயன்முறைகளையும் உள்வாங்கி உள்ளதாக கருதப்படுகின்றது’

இலங்கையில் கிட்டத்தட்ட 10012 பாடசாலைகளும் 41 இலட்சம் மாணவர்களும் கல்வி கற்கின்றார்கள். இவர்களிற்கு கல்வி கற்பிக்க 235,000 ஆசிரியர்கள் சேவையில் ஈடுபட்டுள்ளனர். எனினும் இலங்கை கல்வி முறைமையில் காணப்படும் சமகாலப் பிரச்சினைகளில் 'பாடசாலைகளுக்கு வளங்கள் ஒழுங்காக பகிர்ந்தளிக்கப்படாமையும்' முக்கிய பிரச்சினையாக உருவெடுத்துள்ளது.

அனந்தராஜ்(2011) அவர்கள் குறிப்பிடும் போது பல வழிகளில் நிதி, பௌதிகவளம் கிடைத்தும் பிரச்சினை நிலவுகின்றது. தாய்மொழிப்பாட சித்தி வீதம் 80% ஆக இருப்பது தாய்மொழிக்கல்வியை கேள்விக் குறியாக்கியுள்ளது. தரஉள்ளீட்டு நிதி மூலம் பெறப்படும் வளங்கள், வகுப்பிற்கான தேர்ச்சி மற்றும் செயற்பாடுகளை அடிப்படையாகக் கொண்டு திட்டமிட்டு கொள்முதல் செய்யப்படுவதில்லை. தரஉள்ளீட்டுப் பொருட்களும் கல்வி அமைச்சு மற்றும் மாகாணங்களினால் வழங்கப்படும் கற்றல் சாதனங்கள் ஆய்வு கூடப்பொருட்கள், நூலகங்கள் போன்றவற்றை கற்றல் செயற்பாட்டில் பயன்படுத்துவது குறைவாக உள்ளது. வடக்கு கிழக்கில் அடிப்படைக்கல்வி அலகினால் (BESO) மேற்கொள்ளப்பட்ட ஆய்வில் 20%ஆன ஆசிரியர்களே கற்றல் - கற்பித்தலில் கட்புல, செவிப்புல சாதனங்களைப் பயன்படுத்துகிறார்கள் என்பது தெரியவந்துள்ளது.

வேதநாயகம் (2004) அவர்கள் எழுதிய 'தரமான உள்ளீடுகள்' என்ற கட்டுரையில் தரமான உள்ளீடு என்றால் என்ன? அதில் அடங்கும் விடயங்கள், தரஉள்ளீட்டுக்கான நோக்கங்கள், பேணவேண்டிய ஆவணங்கள் தொடர்பான விபரங்கள் முன்வைக்கப்பட்டுள்ளன.

சின்னத்தம்பி (2005) அவர்கள் ''இடைவிலகல், மீளக்கற்றல் வகையிலான நிதிவிரயம் பற்றாக்குறை வளங்களின் விரயத்தை அதிகரிப்பதுடன் சர்வஜனக் கல்வி இலக்கின் முன்னேற்றத்தையும் மெதுவாகத்தாக்கி பல்வேறு வகையில் தேவைப்படும் மனித வலுவின் நிரம்பலையும் குறைக்கச் செய்து வருகின்றது... கல்வித் துறையிலான வளங்களில் தங்கியுள்ள உள்ளீடுகளின் தராதரம் போன்றவையும் பிரச்சினைக்குள்ளாகின்றன'' இக்கூற்று ஆய்வாளரின் ஆய்வுப்பிரச்சினை தொடர்பான சிந்திப்பை மேற்கொள்ள உதவியாக அமைகின்றது.

''புதிய மாணவர்களிற்கு உந்து விசையாக அமையும் கல்விக் கோட்பாடுகள்' எனும் போது, கல்வித்தர மேம்பாட்டை முன்னெடுத்தல் என்பது முன்பள்ளிகளின் தரத்தை மேம்படுத்தல், அவற்றின் கலைத்திட்டத்தை வளப்படுத்தல், ஆரம்பக்கல்வி தரத்தை உயர்த்துதல், கற்பித்தல் தரத்தை மேம்படுத்தல், உயர்த்துதல், தரமேம்பாட்டை தீர்மானிக்கும் நிர்வாகத்தை வளர்த்தல், மதிப்பீட்டில் மாற்றங்களை கொண்டு வருதல், கல்வி வளங்களை விரிவாக்குதல் முதலானவை இடம் பெறும்'' (ஜெயராசா,2006) இக்கருத்தானது வளங்களின் முக்கியத்துவத்தையும் தரமான உள்ளீடுகளின் முன்னேற்றத்தையும் ஆய்வாளர் உணர வழிகாட்டியுள்ளது.

இலங்கை அரசாங்கம் உலக வங்கியின் உதவியுடன் கல்வியின் தரத்தை மேம்படுத்துவதற்காக தரமான உள்ளீடுகளை கொள்வனவு செய்யும் உரிமையை பாடசாலைகளுக்கு வழங்கியது (GEP – II) தர உள்ளீட்டுக் கொள்வனவு நியாயமான முறையில் கல்வி வளங்கள் பகிர்ந்தளிக்கப்படுவதை உறுதிப்படுத்துவதே இத்திட்டத்தின் நோக்கமாகும். தரமான உள்ளீடுகளை பாடசாலைகளில் பன்முகப்படுத்தி தேவையான நேரத்தில் தேவையான கல்வி வளங்களை பாடசாலைக்கு கிடைக்கச் செய்யும் விதமாகவே இத்திட்டம் அறிமுகப்படுத்தப்பட்டது. (ஜயசிங்க,2000, ப.1).

தரமான உள்ளீடுகள் யாவும் தரமானதாகவும், நியாயமானதாகவும், பாகுபாடற்ற முறையிலும் பகிர்ந்தளிக்கப்படுவதை உறுதிப்படுத்தும் நோக்கில் நிதியை ஒதுக்கீடு செய்யும் செயற்பாடுகள் நிதி ஆணைக்குழுவிடம் (FINANCE COMMISSION) ஒப்படைக்கப்பட்டன. இதனடிப்படையில் நிதி ஆணைக்குழுவானது நியமம்சார் அலகு விலை வளப்பகிர்வு பொறிநுட்பத்தை (NBUCRAM) முன்வைத்து அதனூடாக நியாயமான முறையிலும் வளப்பகிர்வில் ஏற்றத்தாழ்வற்ற முறையிலும் நிதியை ஒதுக்கீடு செய்வதை உறுதிப்படுத்திச் செயற்படுகின்றது.

9. ஆய்வு முறையியல்

இவ்வாய்வு ஓர் அளவைநிலை ஆய்வாக மேற்கொள்ளப்பட்டுள்ளது. எண் பெறுமான அடிப்படையில் தகவல்கள் தரவுகளாக்கப்பட்டு ஆய்வுக்குட்படுத்தப்பட்டுள்ளன. வினாக்கொத்துக்கள், அவதானிப்புப்பத்திரம், நேர்காணல் படிவங்கள் என்பன தகவல் திரட்டும் கருவிகளாகப் பயன்படுத்தப்பட்டுள்ளன. பங்குபற்றுநர்களாக அதிபர்கள், ஆசிரியர்கள், மாணவர்கள் என்போர் இடம் பெறுகின்றனர். ஆய்வாளரால் தெரிவு செய்யப்பட்ட ஆய்வுப் பிரதேசமானது ஆய்வின் தேவையின் நிமித்தம் வரையறுக்கப்படுவது அவசியமானதாகும். இலங்கையின் வடக்கு மாகாணத்தில் அமைந்துள்ள யாழ்ப்பாணத்தில் ஐந்து வலயங்களுள் ஒன்றாக வலிகாமம் கல்வி வலயம் உள்ளது. இது நான்கு கோட்டங்களையும் சேர்த்து 138 பாடசாலைகளை உள்ளடக்கியுள்ளது.

அட்டவணை 1: கோட்டங்களும் பாடசாலை எண்ணிக்கையும் (2014)

கோட்டம்	பாடசாலை எண்ணிக்கை	பாடசாலை வகை			
		1AB	1C	Type II	Type III
உடுவில்	31	3	3	10	15
சங்கானை	34	3	4	5	22
சண்டிலிப்பாய்	39	5	5	9	20
தெல்லிப்பழை	34	5	3	10	16

மூலம்:- திட்டமிடல் பிரிவு - வலிகாமம் கல்வி வலயம் - 2014

ஆய்வுக்குட்படுத்தப்பட்ட தெல்லிப்பழைக் கோட்டமானது 34 பாடசாலைகளைக் கொண்டது. இதில் 6 பாடசாலைகள் இடம்பெயர்ந்த நிலையில் இயங்கி வருகின்றன. தெல்லிப்பழைக் கோட்டத்தின் 11 பாடசாலைகள், 50ஆசிரியர்கள், 10அதிபர்கள், 100மாணவர்கள் குடித்தொகையினராகக் கொள்ளப்பட்டுள்ளனர். இங்கு எளிய படைகொண்ட எழுமாற்று முறை அடிப்படையிலேயே மாதிரி எடுப்புக்கள் இடம் பெற்றுள்ளன.

அட்டவணை 2: மாதிரித் தெரிவுப்பாடசாலைகள்

பாடசாலை வகை	பாடசாலைகளின் மொத்த எண்ணிக்கை	மாதிரி
1 AB	05	02
1 C	03	01
Type II	10	03
Type III	16	05
Total	34	11

ஆய்வாளர் தனது ஆய்வுக்குப் பொருத்தமான முறையைத் தெரிவுசெய்ய வேண்டிய நிலையில் அளவைநிலை ஆய்வு முறை பொருத்தமெனத் தேர்ந்தெடுத்துள்ளார். (Survey Research Method) அதிபர், ஆசிரியர். மாணவர் ஆகிய பங்குபற்றுநர்களிடம் வினாக்கொத்து மூலம் தரவுகள் சேகரிக்கப்பட்டுள்ளன. இவ்வினாக்கொத்தின் ஆரம்பத் தகவல்கள் பொதுவான தகவல்கள் திரட்டும் வகையில் அமைந்துள்ளன. வினாக்கொத்தின் உள்ளடக்கத்திலே அதிபர்களிற்குப் பொருத்தமான வினாக்கள் தனியாகவும், ஆசிரியர்களிற்குப் பொருத்தமான வினாக்கள் தனியாகவும், மாணவர்களுக்குப் பொருத்தமான வினாக்கள் தனியாகவும் வடிவமைக்கப்பட்டுள்ளன.

ஆய்வுக்காக தெரிவு செய்யப்பட்ட பாடசாலையின் தர உள்ளீடு தொடர்பான விடயங்களை ஆய்வாளர் பல்வேறு சந்தர்ப்பங்களிலும், வகுப்பறைத் தரிசிப்புக்களின் போதும் அவதானித்துள்ளார். வகுப்பறைப் பிரயோகங்களில் கற்பித்தல் சாதனங்கள்

பயன்படுத்தப்பட்டுள்ளதா? அவை காட்சிப்படுத்தப்பட்டுள்ளதா? Audio,video Room பயன்பாட்டில் உள்ளதா? போன்ற பல விடயங்கள் அவதானிப்புக்குட்படுத்தப்பட்டன. பாடசாலைகளில் தரஉள்ளீடு தொடர்பான பதினொரு கோவைகளும் காணப்படுகின்றதா? ஆவணங்கள், பதிவுகள் காணப்படுகின்றனவா? போன்ற பல விடயங்கள் வெளிப்படையாக அவதானிக்கப்பட்டன. குறித்த பாடசாலைகளின் பங்குபற்றுநர்கள் தாம் அவதானிக்கப்படுகின்றோம் என்பதை அவர்கள் அறியா வண்ணம் ஆய்வாளர் பல இடங்களில் அவதானிப்புக்களை மேற்கொண்டிருந்தார்.

கோட்டக்கல்வி அலுவலர், கோட்டக்கல்வி அலுவலக உதவியாளர், ஆசிரிய ஆலோசகர் போன்றோரிடம் பல்வேறு நிலைகளில் தர உள்ளீடு தொடர்பான தகவல்கள் திரட்டும் நேர்காணல் ஆய்வாளரால் நிகழ்த்தப்பட்டது. ஆய்வுடன் தொடர்புபட்டதாக கோட்டக்கல்வி அலுவலகம், வலயக்கல்வி அலுவலகம், மாகாணக்கல்வி அமைச்சு அறிக்கைகள், சஞ்சிகைகள், பத்திரிகைகள் போன்ற பிரசுரிக்கப்பட்ட மூலங்களில் இருந்தும் ஆய்வுக்கான துணைத்தரவுகள் பெற்றுக்கொள்ளப்பட்டன.

10. தரவுப் பகுப்பாய்வு முறைகள்

முதன்மை தரவுகளைப் பகுப்பாய்வு செய்வதற்குப் பல்வேறு நுட்பங்கள் ஆய்விலே பின்பற்றப்பட்டுள்ளன. வினாக்கொத்தில் காணப்படும் தரஉள்ளீடு தொடர்பான விடயங்கள் அட்டவணைகள், சலாகை வரைபுகள், வட்டவரைபுகள் போன்றன மூலம் விளக்கப்பட்டு பகுப்பாய்வு செய்யப்பட்டுள்ளன. பங்குபற்றுநர்களின் அபிப்பிராயங்கள் வினாக்கள் மூலம் எண்பெறுமான அளவீட்டில் பெறப்பட்டுள்ளன. இவர்களது கருத்துக்கள், தெரிவுகளை பொதுமையாக்கும் வகையில் சமூக விஞ்ஞானத்திற்கான புள்ளிவிபரவியல் மூலம் பகுப்பாய்வு செய்யப்பட்டு பகுப்பாய்வு விபரிக்கப்பட்டுள்ளது. தரஉள்ளீடுகள் தொடர்பில் பெற்றுக்கொள்ளல், பயன்படுத்தல், போதுமானதன்மை, ஆசிரியர் மாணவர் செயற்பாட்டு நிலைமைகள், அடைவுமட்டங்கள் தொடர்பாக மூன்று பங்குபற்றுநர்கள் மூலமும் நோக்கப்பட்டுள்ளன. அதிபர், ஆசிரியர், மாணவர் தொடர்பில் தனித்தனியாகத் தரவுகள் பகுக்கப்பட்டு ஒப்பு நோக்கப்பட்டுள்ளன.

அட்டவணை 3 : தெல்லிப்பழைக் கோட்டத்தின் ஆய்வுக்கென எடுத்துக் கொள்ளப்பட்ட பாடசாலைகளிற்கென 2013, 2014, 2015 ஆண்டுகளிற்கு ஒதுக்கப்பட்ட நிதி விடுவிப்பு தொடர்பான பகுப்பாய்வு

No	School Name	CONSUMABLE & REPAIRS			HIGER ORDER PROCESS (T)		HIGER ORDER PROCESS (S)		TOTAL
		PRI	SEC	SPEDU	PRI	SEC	PRI	SEC	
1	J/MAHAJANA COLLEGE	82143	293143	0	8293	60500	26964	93014	564057
2	J/ARUNODAYA COLLEGE	82143	293143	0	8293	60500	26964	93014	564057
3	J/MALLAKAM M.V	0	198692	0	0	42808	0	63877	305377
4	J/NADESWARA COLLEGE	34500	63720	0	3483	17720	11325	21516	151764
5	J/ALAVEDDY SATHANANDA	34500	37800	0	3483	10200	11325	12516	109824
6	J/KULAMANHAL R.C	34500	63720	0	3483	17720	11325	21516	151764
7	J/MALLAKAM VISALADSHI	46000	0	0	4644	0	15100	0	65744
8	J/NADESWARA KANISTA	34500	0	0	3483	0	11325	0	49308
9	J/THANTHAI SELVA	46000	0	0	4644	0	15100	0	65744
10	J/VAYAVILAN M.M.V	0	256500	0	0	52938	0	81388	390826

மூலம்:- முகாமைத்துவப் பிரிவு வலிகாமம் கல்வி வலயம்

அட்டவணை 4: தரஉள்ளீட்டு நிதி ஒதுக்கீடு – 2014

No	School Name	CONSUMABLE & REPAIRS			HIGER ORDER PROCESS (T)		HIGER ORDER PROCESS (S)		TOTAL
		PRI	SEC	SP EDU	PRI	SEC	PRI	SEC	
1	J/MAHAJANA COLLEGE	78531	227280	0	5678	60500	17429	58183	447601
2	J/ARUNODAYA COLLEGE	78531	227280	0	5678	60500	17429	58183	447601
3	J/MALLAKAM M.V	0	155880	0	0	42808	0	40812	239500
4	J/NADESWARA COLLEGE	0	34814	0	0	17720	0	15300	87334
5	J/ALAVEDDYSATHANANA	33000	35081	0	2384	10200	7320	9000	96985
6	J/KULAMANHAL R.C	33000	54814	0	2384	17220	7320	15300	130038
7	J/MALLAKAM VISALADSHI	44000	0	0	3178	0	9760	0	56938
8	J/NADESWARA KANISTA	33000	0	0	2384	0	7320	0	42704
9	J/THANTHAI SELVA	44000	0	0	3178	0	9760	0	56938
10	J/VAYAVILAN M.M.V	0	198870	0	0	52938	0	50910	302718

த்துவப் பிரிவு வலிகாமம் கல்வி வலயம்)

அட்டவணை 5: தரஉள்ளீட்டு நிதி ஒதுக்கீடு – 2013

No	School Name	CONSUMABLE & REPAIRS			HIGER ORDER PROCESS (T)		HIGER ORDER PROCESS (S)		TOTAL
		PRI	SEC	SP EDU	PRI	SEC	PRI	SEC	
1	J/MAHAJANA COLLEGE	86143	193153	15392	7832	64588	17607	47201	431916
2	J/ARUNODAYA COLLEGE	86143	193153	28068	7832	64588	17607	47201	444592
3	J/MALLAKAM M.V	0	13710	0	0	43641	0	31942	206293
4	J/NADESWARA COLLEGE	36180	54814	0	3290	18260	7395	13395	133334
5	J/ALAVEDDY SATHANANDA	36180	35081	0	3290	11610	7395	8573	102129
6	J/KULAMANHAL R.C	36180	54814	0	3290	18260	7395	13395	133334
7	J/MALLAKAM VISALADSHI	36180	0	0	3290	0	7395	0	46865
8	J/NADESWARA KANISTA	36180	0	0	3290	0	7395	0	46865
9	J/THANTHAI SELVA	48240	0	0	4386	0	9860	0	62486
10	J/VAYAVILAN M.M.V	0	267744	0	0	89414	0	65429	422587

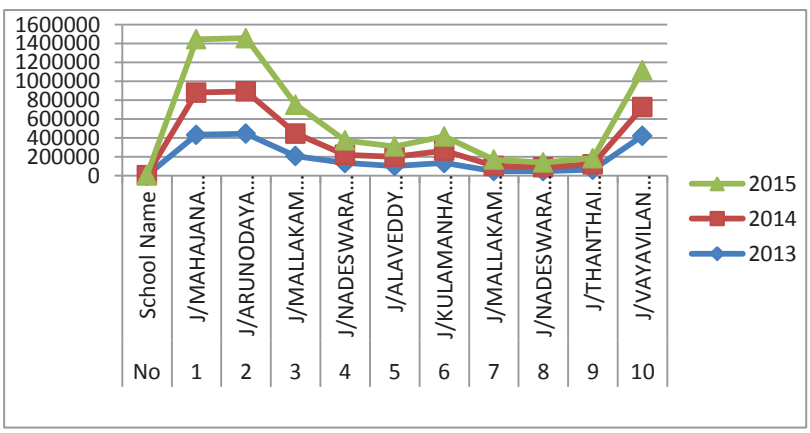
(மூலம்:- முகாமைத்துவப் பிரிவு வலிகாமம் கல்வி வலயம்)

அட்டவணை 6: தரஉள்ளீட்டு நிதி ஒதுக்கீட்டுப் பகுப்பாய்வு

No	School Name	2013	2014	2015
1	J/MAHAJANA COLLEGE	431916	447601	564057
2	J/ARUNODAYA COLLEGE	444592	447601	564057
3	J/MALLAKAM M.V	206293	239500	305377
4	J/NADESWARA COLLEGE	133334	87334	151764
5	J/ALAVEDDY SATHANANDA	102129	96985	109824
6	J/KULAMANHAL R.C	133334	130038	151764
7	J/MALLAKAM VISALADSHI	46865	56938	65744
8	J/NADESWARA KANISTA	46865	42704	49308
9	J/THANTHAI SELVA	62486	56938	65744
10	J/VAYAVILAN M.M.V	422587	302718	390826

மூலம்:- முகாமைத்துவப் பிரிவு வலிகாமம் கல்வி வலயம்

வரைபு - 1: 2013, 2014, 2015 ஆண்டுகளில் பாடசாலைகளுக்கான நிதி ஒதுக்கீடு



மேற்குறித்த பகுப்பாய்வானது 2013, 2014, 2015 ஆண்டுகாலப் பகுதிகளில் தர உள்ளீட்டுக்கென ஒதுக்கப்பட்ட நிதி ஒதுக்கீட்டினை விபரமாகக் காட்டுகின்றது. கடந்த காலங்களில் ஒதுக்கப்பட்ட நிதி ஒதுக்கீடானது பாடசாலை மாணவர் தொகைக்கு ஏற்ப மாறுபட்டதாக காணப்பட்டாலும், ஒதுக்கப்பட்ட நிதி விடுவிப்பானது அதிகரித்துக்கொண்டு செல்வதனை வெளிப்படுத்துகின்றது. சராசரியாக 1AB பாடசாலைகளுக்கு ஐந்து இலட்சம் ரூபாய் வரையிலும், Type II பாடசாலைகளுக்குச் சராசரியாக மூன்று இலட்சம் ரூபாய் வரையிலும், Type III பாடசாலைகளுக்குச் சராசரியாக ஒரு இலட்சம் ரூபாய் வரையிலும் ஒதுக்கீடு செய்யப்பட்டுள்ளன.

10.1 மாணவர்களின் துலங்கல்களின் மூலமான கண்டறிதல்கள்

- வகுப்பறைகளில் ஆசிரியர்கள் அவ்வப்போது மட்டுமே கற்பித்தல் சாதனங்களைப் பயன்படுத்துகின்றனர், சிலர் பயன்படுத்துவதே இல்லை.
- கற்றல் அடைவு மட்டத்தில் தர உள்ளீடும் செல்வாக்குச் செலுத்துகின்றது.
- பல மாணவர்கள் வகுப்பறைகளில் கற்பித்தல் சாதனங்களே இல்லை என வெளிப்படுத்தியுள்ளனர்.
- தரஉள்ளீட்டு நடைமுறைகள், நிதி ஒதுக்கீடுகள் பற்றி பெரும்பாலான மாணவர்களுக்குத் தெரியாது.
- கற்பித்தல் சாதனங்களைப் பயன்படுத்தி கற்பிக்கும் பாடத்தில் கூடிய புள்ளிகள் பெறுவதாகத் தெரிவித்துள்ளனர்.

10.2 ஆசிரியர் துலங்கல்களின் மூலமான கண்டறிதல்கள்

- 36% ஆன ஆசிரியர்கள் தரஉள்ளீடுகளைப் பெறுவதில் தடைகளையும், கால தாமதங்களையும் எதிர்நோக்குகின்றனர்.
- 9%ஆன ஆசிரியர்கள் தேவைப்பட்டியலை உரிய நேரத்தில் ஒப்படைப்பதில்லை.
- 18% ஆனோர் பாடத்தேவை, தேர்ச்சிக்கு ஏற்ப தர உள்ளீடுகள் பாடசாலையில் சில நேரங்களில் வழங்கப்படுவதில்லை. என்று வெளிப்படுத்தியுள்ளனர்.
- தரமான உள்ளீட்டு நிதி தொடர்பான செலவு விபரங்கள் வெளிப்படையாகப் பேணப்படுவதில்லை என 16% ஆனோர் வெளிப்படுத்தியுள்ளனர்.
- நுகர் பொருளுக்கான ஒதுக்கீடு மூலதனப்பொருள் கொள்வனவுக்குப் பயன்படுத்தப்படுகிறது.
- வேலைச்சுமை தற்போது அதிகமாக காணப்படுகின்றது.
- தேவைப்பட்டியலைக் கொடுத்தும் கோரப்படும் பொருட்கள் கிடைப்பதில்லை.

10.3 அதிபர்களின் துலங்கல்கள் மூலமான கண்டறிதல்கள்

- ஆசிரியர்கள் தேவைப்பட்டியலை உரிய காலப்பகுதியில் ஒப்படைப்பதில்லை.
- சில ஆசிரியர்கள் தர உள்ளீடுகளை வகுப்பறையில் பயன்படுத்துவதில்லை.
- ஆசிரியர்களின் நேரான மனப்பாங்குகளில் குறைபாடுகள் காணப்படுகின்றன.
- சில ஆசிரியர்கள் மேற்பார்வைகளின் போது மட்டுமே தரஉள்ளீடுகளை பயன்படுத்துகின்றனர்,

11. ஆய்வு முடிவுகள்

பாடசாலைகளில் தரமான உள்ளீட்டுப் பயன்பாடு தொடர்பான நடைமுறைகளையும் பின்னணியையும் நோக்குகின்றபோது, சில ஆசிரியர்கள் தர உள்ளீடுகளைப் பயன்படுத்துவதைச் சுமையாகக் கருதுகின்றனர். நேர விரயம், மேலதிக நேரம் தேவைப்படுவதாகவும் குறிப்பிடுகின்றனர். மேற்பார்வையின்போது மட்டும் ஓரளவு பயன்படுத்தப்படுகின்றமையும் இடைநிலை வகுப்புக்களில் தர உள்ளீட்டுப் பயன்பாடு குறைவாக இருப்பதும் உயர்தர வகுப்புக்களில் பெரும்பாலும் பயன்படுத்துவதே இல்லை என்பதும் பங்குபற்றுநர்கள் மூலம் அறிய முடிந்துள்ளது. பாடசாலைக்குப் பாடசாலை தர உள்ளீட்டு நிதி ஒதுக்கீட்டில் பாகுபாடுகள் காணப்படுவதோடு, தர உள்ளீடுகள் வகுப்பறைக்குச் சீராகப் பகிர்ந்தளிக்கப்படுவதில்லை, தர உள்ளீடுகளைப் பயன்படுத்தல் தொடர்பான அதிபர், ஆசிரியர்களின் எதிர்மறை மனப்பாங்குகளும், தரஉள்ளீட்டு நிதி வெளிப்படையாகப் பேணப்படாமை, ஆசிரியர்களுக்கான வேலைப்பளு, நிதி முறைகளில் காணப்படும் மோசடிகள், கொள்வனவுக்குழு, மதிப்பீட்டுக்குழு என்பனவற்றின் வினைத்திறனற்ற செயற்பாடு, காலம் தாழ்த்திய கொள்வனவும் விநியோகம் என்பனவும் தர உள்ளீடுகளை வினைத்திறனாகப் பயன்படுத்துவதிலுள்ள தடைகளாக அதிபர், ஆசிரியர்கள் இனங் காட்டியுள்ளனர்.

12.1 விதந்துரைகள்

மாணவர் மையக்கல்வியை வலியுறுத்தும் இன்றைய கலைத்திட்டம் தேர்ச்சியை அடிப்படையாகக் கொண்ட செயற்பாடு சார்ந்த கலைத்திட்டமாகும். செயற்பாடு சார்ந்த கல்விக்கு தர உள்ளீடுகளைப் பயன்படுத்தல் என்பது முக்கியமான அம்சம் ஆகும். தர உள்ளீடுகளை வினைத்திறனாகப் பயன்படுத்தும்போதே கற்றல்-கற்பித்தல் தரம் விருத்தியடைகிறது, தர உள்ளீட்டின் வினைத்திறனான பயன்பாட்டை உறுதிப்படுத்துவதற்கு உரிய நடவடிக்கைகள் மேற்கொள்ள வேண்டியதை இவ்வாய்வு முடிவுகள் வெளிப்படுத்துகின்றன. இவற்றின் அடிப்படையில் பின்வரும் விதந்துரைகள் முக்கியத்துவம் பெறுகின்றன.

- தரஉள்ளீட்டுப் பாவனையுடன் தொடர்புடைய அனைவரது மனப்பாங்கும் மேம்படுத்தப்பட வேண்டும்; தரஉள்ளீட்டுப் பாவனையின் முக்கியத்துவத்தினையும் அவசியத்தையும் அனைவரும் உணரச் செய்தல் வேண்டும்.
- தரஉள்ளீடுகளின் போதாமை, உரிய நேரத்தில் கிடைக்காமை என்பவற்றை நீக்க வலயம், அதிபர், ஆசிரியர் என்போர் தேவைகளை முன்கூட்டியே திட்டமிட்டு உரிய காலப்பகுதியில் நிதி ஒதுக்கீட்டினையும், கொள்வனவையும் மேற்கொள்ள வேண்டும்.
- தரஉள்ளீடு தொடர்பான மேற்பார்வை ஒழுங்குகள் திட்டமிட்ட ரீதியில் இயங்கு நிலையில் தொடர்ச்சியாக இடம்பெற வேண்டும்.
- தரஉள்ளீடு தொடர்பான நிதி ஒதுக்கீடுகள், கொள்வனவுகள் என்பன வெளிப்படையாகப் பேணப்படவும், மேற்பார்வை செய்யப்படவும் வேண்டும்.
- தரஉள்ளீடு தொடர்பான வலய, மாகாண, கோட்ட மட்ட கண்காணிப்புக்கள் அதிகரிக்கப்பட வேண்டும்.
- பொருத்தமான நேரத்தில் பொருத்தமான ஒதுக்கீடுகளை மேற்கொள்ள வேண்டும்.
- ஆசிரியர்களின் மனப்பாங்குகளை மாற்றி தரஉள்ளீட்டுப்பாவனை ஆர்வத்தை அதிகரிக்கச் செய்ய வேண்டும்.
- உரிய ஒதுக்கீடுகளை உரிய தேர்ச்சிக்கு அமைய அப்பிரிவிற்கே செலவு செய்வதை உறுதிப்படுத்த வேண்டும்.
- நிதி முறைகளில் காணப்படும் மறைமுக மோசடிகளை வெளிக்கொணர்ந்து சட்ட நடவடிக்கை எடுக்க வேண்டும்.
- கொள்வனவுக்குழு, மதிப்பீட்டுக்குழு அதிகாரங்கள் அதிகரிக்கப்பட்டு வினைத்திறனான செயற்பாட்டிற்கு ஆவண செய்தல் வேண்டும்.
- தரஉள்ளீட்டுப் பாவனை தொடர்பான பாட, நேர ஒதுக்கீடுகள் கலைத்திட்டத்தின் மூலம் ஆசிரியருக்கு வழங்க வேண்டும்.

தர உள்ளீட்டுப் பயன்பாட்டில் காணப்படும் இவ்வாறான குறைபாடுகள் மாணவரின் கற்றலிலும் பாதிப்பை ஏற்படுத்துகின்றன. தர உள்ளீட்டினை வினைத்திறனாகப் பயன்படுத்துவதனூடாக மாணவரின் கற்றலிலும் கல்வி அடைவிலும் மதிப்பீட்டிலும் பண்பு ரீதியான மாற்றத்தை பெற்றுக்கொள்ள முடியும். தர உள்ளீட்டுப் பயன்பாடு தொடர்பான நேர் மனப்பாங்கை அதிபர், ஆசிரியர்களிடம் ஏற்படுத்துவதன் மூலம் தர உள்ளீட்டின் வினைத்திறனான பயன்பாட்டை மேம்படுத்த முடியும்.

உசாத்துணைப் பெயர்ப்பட்டியல்

1. சின்னத்தம்பி,க. (2007*). கல்வி ஆய்வியல்.* இடைக்காடு: வளர்மதி பதிப்பகம்,
2. ஜெயராசா,சபா. (2008). *கல்விக் கோட்பாடுகளும் மாற்றுச்சிந்தனைகளும்.* கொழும்பு: சேமமடு பதிப்பகம்.
3. கலாமணி,த. (2013*). ஆய்வொன்றை மேற்கொள்வதற்கான ஆரம்ப நடவடிக்கை . கடல்,* 6, 30-34
4. சின்னத்தம்பி,க.&சுவர்ணராஜா,க.(2011). *அறிகைத் தொழிற்பாடுகளும் ஆசிரியர்களும்.* கொழும்பு: சேமமடு, பதிப்பகம்.
5. கல்வி அமைச்சு.(2000). *தரமான கல்வி உள்ளீடுகள் வழிகாட்டி.* பத்தரமுல்ல: கல்வி அமைச்சு.
6. ஜெயராசா,சபா. (2011). *கல்வியில் எழுவினாக்கள்.*கொழும்பு: சேமமடு பதிப்பகம்.
7. சின்னத்தம்பி,மா. (2005). *இலங்கையின் கல்விச் செலவு.* சென்னை: விஸ்டம் பப்ளிக்கேசன்.
8. செல்வராணி,இ. & தனராஜ்,தை. (2013). *பட்டப்பின் டிப்ளோமா கற்கை நெறியின் வினைத்திறன் மீதான மதிப்பீட்டாய்வு,* மகரகம: தேசியகல்வி நிறுவகம்,
9. நித்திலவர்ணன்,ஆ. (2015). *பேண்தகு அபிவிருத்திக்கான கல்வி.* கொழும்பு: சேமமடு பதிப்பகம்.
10. சறோஜினி,வே. (2004). *தரமான கல்வி உள்ளீடுகள்.* விளக்கு, (ஆசிரிய வாண்மை விருத்தி வெளியீடு) ஜனவரி 2004,12-13
11. கணேஸ்,பெ. (2011).*வெளியக மேற்பார்வையும் தரமான உள்ளீடுகளும்.* ஆசிரியம், 6.
12. ஜெயராசா.சபா, (2006).*கல்வியில் புதிய சீர்திருத்தங்கள், ஒரு விளக்கநிலை நோக்கு.* கொழும்பு: அகவிழி வெளியீடு.
13. பத்மாவதி,லோ. (2010*). தர உள்ளீட்டுப் பாவனையில் எதிர்நோக்கப்படும் பிரச்சினையும் தீர்வுகளும்,* யாழ் பல்கலைக்கழகம்: பிரசுரிக்கப்படாத ஆய்வேடு (கல்வி முதுமாணி)
14. பாத்திமா,ஸ.(2014). *இலங்கை கல்வி முறைமையில் காணப்படும் சமகாலப்பிரச்சினைகள்*>www.englteasam.com November@14
15 கினிகே,எல். (2009). *புதிய கலைத்திட்ட நோக்கு.* மகரகம: தேசிய கல்வி நிறுவகம்,
16 சந்திரசேகரன்,சோ. (2009). *இலங்கையில் பாடசாலைக்கல்வியின் தராதர வீழ்ச்சி.கொழும்பு:* அகவிழி வெளியீடு.

CONTRIBUTION OF SAIVAISM IN DEVELOPING THE GOOD QUALITIES OF LOVE, DISCIPLINE AND SOCIAL REGARDS

A Study based on the J/ Inunil Hindu College

Thayalini Senthilnathan
Teacher Educator- SLTES-III
Teacher Centre,
Vadamaradchy.

Abstract in English

Nowadays we can observe that good qualities among students are decreasing. Saivaism is a subject which plays a vital role to improve these good qualities among students. There are many good qualities emphasised in Saivaism subject. This research is conducted on the theme, "Contribution of saivaism to develop love discipline and social regard". There are many good qualities. But this research is based on only love discipline and social regard. The researcher likes to improve love, discipline and social regards among students. Hence this is the reason to choose this topic and it is done based on Survey Research. There is a need to know whether the subject Saivaism taught in schools will avoid the bad habits among the students and persuade them to grow with good habits. It is the main duty to give importance to Saivaism subject and teach good habits to students to practice in their life. In this case, randomly students were selected from Grade 6-11 classes in J/Inuvil Hindu College, to do this research. Analysis was done by statistically through the answers of the questionnaire which was given to the students. According to the objective of the research there is coordination between grade and Saivaism subject. Influence of Saivaism subject increases the love, discipline and social regards among school students. The Result of this research is that Saivaism influences 43% of the students' good behaviour.

Key Words: Saivaism, Good qualities, Love, Discipline, Social regard

அன்பு, ஒழுக்கம், சமூகநலன் ஆகிய நற்பண்புகளை வளர்ப்பதில் சைவசமய பாடத்தின் பங்களிப்பு

யாழ்/ இணுவிலீ இந்துக் கல்லூரியை அடிப்பயைடயாசுச் கெண்ட ஆயிவு

திருமதி தயாளினி செந்தில்நாதன்
ஆசிரிய மத்திய நிலையம்
வடமராட்சி

ஆய்வுச்சுருக்கம்

இன்று மாணவர்களிடத்திலே ஒழுக்க நற்பண்புகள் குறைந்துகொண்டு செல்வதை அவதானிக்கக் கூடியதாக இருக்கின்றது. மாணவர்களிடத்தில் நற்பண்புகளை வளர்ப்பதிலே சைவசமயக்கல்வி முக்கியமான இடத்தைப் பெறுகின்றது. சைவசமய பாடத்திலே பல நற்பண்புகள் வலியுறுத்தப்பட்டுள்ளன. ஆயினும் அவற்றிலே அன்பு, ஒழுக்கம், சமூகநலன்கள் என்பவற்றை அடிப்படையாகக் கொண்டு, ''**அன்பு, ஒழுக்கம், சமூகநலன் ஆகிய நற்பண்புகளை வளர்த்தலில் சைவசமய பாடத்தின் பங்களிப்பு**''என்ற தலைப்பிலே இவ் ஆய்வானது மேற்கொள்ளப்படுகின்றது. நற்பண்புகள் என்பதிலே பல பண்புகள் உள்ளடக்கப்படுகின்றன. ஆயினும் அவற்றிலே அன்பு, ஒழுக்கம், சமூகநலன் ஆகிய பண்புகளை மட்டும் கொண்டதாக இந்த ஆய்வு மேற்கொள்ளப்படுகின்றது. அத்துடன் அவ் நற்பண்புகளை மாணவர்களிடத்தில் வளர்க்க வேண்டும் என்பதும் ஆய்வாளருடைய விருப்பமாகக் காணப்பட்டமை இந்த ஆய்வு மேற்கொள்ளக் காரணமாகக் காணப்படுகிறது. இவ்வாய்வானது அளவைமுறை(Survey Research) ஆய்வாக மேற்கொள்ளப்படுகின்றது. பாடசாலைகளில் கற்பிக்கப்படும் சமயக்கல்வி குறிப்பாகச் சைவசமயக் கல்வியானது மாணவர்களிடத்துக் காணப்படும் தீயபழக்கவழக்கங்களைத் தவிர்த்து நல்ல பழக்க வழக்கங்களைக் கடைப்பிடித்து மாணவர்களை நற்பண்புள்ளவர்களாக வளரத் துணைடுகிறதா? என்பதை அறிய வேண்டிய கடப்பாடு உள்ளது.அத்துடன் பாடசாலைகளில் சைவசமய பாடத்திற்கு முக்கியத்துவம் கொடுத்து மாணவர்களுடைய வாழ்க்கைக்குப் பயன்படும்படியாக அதனைக் கற்பிக்க வேண்டிய தேவையும் உள்ளது. இதனை அடிப்படையாகக் கொண்டே இந்த ஆய்வு இடம்பெறுகின்றது. இவ்வகையில் யா/இணுவில் இந்துக்கல்லூரியில் தரம் 6-11 வரையுள்ள 80 மாணவர்களை எழுமாற்றாகத் தெரிவுசெய்து இவ்வாய்வு மேற்கொள்ளப்படுகின்றது. மாணவர்களுக்கு வழங்கப்பட்ட வினாக்கொத்துக்களின் மூலம் பெறப்பட்ட தரவுகளைக் கொண்டதாக ஆய்வுப் பெறுகைகளின் பகுப்பாய்வு புள்ளிவிபரவியல் அடிப்படையில் இடம் பெறுகின்றது. ஆய்வின் கருதுகோளுக்கமைய ஆண்டு நிலைக்கும் சைவசமயக்கல்விக்கும் இடையே மேற்கொள்ளப்பட்ட பகுப்பாய்வில் ஆண்டு ரீதியில் மாணவர்களின் சைவசமயக்கல்வி விருப்பு அதிகரிப்பதாகக் காணப்படுவதோடு, மாணவர்களின் அன்பு, ஒழுக்கம், சமூகநலன் ஆகிய நற்பண்புகளை வளர்த்தலில் சைவசமயக் கல்வி ஆதிக்கம் செலுத்துகின்றது. அதாவது அன்பு, ஒழுக்கம், சமூகநலன் ஆகிய நற்பண்புகளை வளர்ப்பதில் 43% ஆன அளவு சைவசமயத்தினால் தீர்மானிக்கப்படுகின்றது என்பதை விளக்கி நிற்பதாக இவ்வாய்வுக் கட்டுரை அமைந்துள்ளது.

முதன்மைச் சொற்கள்: சைவசமயம், நற்பண்புகள், அன்பு, ஒழுக்கம், சமூகநலன்

ஆய்வின் அறிமுகம்

மாணவர்களிடையே வளர்த்துக்கொள்ளப்பட வேண்டிய நற்பண்புகள் பலவாகக் காணப்படுகின்றன. ஆயினும் இவ் ஆய்வானது அன்பு, ஒழுக்கம், சமூகநலன் எனும் நற்பண்புகளை அடிப்படையாகக் கொண்டதாக அமைகின்றது. சமயக்கல்வி மூலமாக நாட்டில் நேர்மையும் நிதானமும் கொண்ட குடிமக்களை உருவாக்க முடியும் என்ற திடமான நம்பிக்கையிலேயே முதலாம் வகுப்புத் தொடக்கம் பதினொராம் வகுப்பு வரை சமய பாடமானது கட்டாய பாடமாகக் கற்பிக்கப்படுகின்றது. கல்வியின் இறுதி நோக்கம் மாணவரிடையே நல்லொழுக்கத்தையும், அறப்பண்புகளையும் வளர்த்தலேயாகும் எனும் கருத்தை கிரேக்க தத்துவ அறிஞர் அரிஸ்டோட்டில் எடுத்துக் கூறியுள்ளார். ''மனிதனை மனிதனாக்குவது கல்வி'' என்பது சுவாமி விவேகானந்தரது கருத்தாகும். மனிதன் வாழ்வாங்கு வாழ வழி வகுக்கும் வகையில் சமயக் கல்வியானது அமைகின்றது. மனித வாழ்க்கைக்கு என்றும் அடிப்படையாக இருக்க வேண்டிய ஆன்மீக நெறிகளைக் கூறுவதே சமயக் கல்வியாகும் (ஜெயலட்சுமி,2004). இச்சயமக் கல்வியை பாடசாலைகளில் மாணவர்களிடத்தில் கற்பிப்பதன் ஊடாக அவர்களது நற்பண்புகளை வளர்த்துக்கொள்ளலாம்.

ஆய்வின் நோக்கம்

கல்வியின் இறுதிநோக்கம் சமயச் சார்புடையதாகும் என்றும், கடவுளுடன் எல்லையில்லாத முடிவற்ற இன்பத்தொடர் கொள்வதே இதுவாகுமென்றும் இதனை அடையத் துணைசெய்யும் அறிவை அளித்து உதவுவதே கல்வியின் நோக்கமாகும் என்றும் கூறப்படுகின்றது. (சந்தானம், 1994). சமயத்தின் ஊடாக மாணவர்களுக்கு அறிவுச் செயல்கள். எழிலுணர் செயல்கள், நல்லொழுக்கச் செயல்கள் ஆகியன வளர்த்தெடுக்கப்படவேண்டியனவாகும். பொதுவாகப் பார்க்கும்போது சமயம் பிரபஞ்சத்தினை அறிய முயல்வதோடு, மனித வாழ்க்கையைப் பிரபஞ்சத்தோடு இணைப்பதாகக் கூறலாம். (Chandrasegaram, 1982).

சைவசமயத்தைப் பாடசாலைகளில் கற்பிப்பதோடு, அப்பாடத்தைக் கற்கும் மாணவர்கள் மத்தியில் ஒழுக்க, நற்பண்புகளை வளர்த்தல் இன்றியமையாததொன்றாகும். இதுவே முக்கிய நோக்கமாக அமைகின்றது. மற்றும் மாணவர்கள் சைவசமயத்தை பரீட்சை நோக்கோடு மாத்திரம் கற்காது சைவநெறியில் கூறப்பட்ட கருத்துக்களாகிய ஒழுக்க, நற்பண்புகளை தமது வாழ்க்கைக்கு உகந்த வகையில் பயன்படுத்த வேண்டும். பொதுவாகக் கல்வியின் உன்னதமான நோக்கங்களில் ஒன்று பண்புசார் மனிதனை உண்டாக்குவதாகும். அதாவது ஒழுக்கப்பண்புடைய மனிதனை உருவாக்குவதாகும். சிறந்த மனிதப்பண்புடன் நன்கிசைந்த ஆளுமையையும் கல்வி கொடுத்தல் வேண்டும் என்றும், பிரத்தியேக நோக்கத்தினையும் ஆத்மீக, ஒழுக்க, சமூக வளர்ச்சியை கல்வி கொடுக்க வேண்டும் எனவும், இலங்கைக் கல்வியமைப்பு, கல்வி பற்றிய நோக்கங்களாகக் கொண்டுள்ளது. (கல்வி அமைச்சு, 1986). இதற்கேற்ப நோக்கத்தை நிறைவேற்ற சைவசமய பாடம் முக்கியமானதாகும்.

இலக்கிய மீளாய்வு

பாடசாலைக் கலைத்திட்டத்தில் விழுமியக் கல்வி என்ற ஆய்விலே (பிலேந்திரன்,1996) பிள்ளைகளின் உருவாக்கத்தில் பெற்றோர் கூடிய நேரத்தைச் செலவிடுவது முக்கியமான அம்சம் எனக் கூறப்பட்டுள்ளது. இந்து மரபுக்கல்விச் சிந்தனைகள் என்ற ஆய்விலே (சோமசுந்தரம்) பாடசாலைகள் கற்றல் நெறியின் உள்ளடக்கத்தை வளப்படுத்தும் நோக்குடனும், கற்போருக்கு வழிகாட்டும் குறிக்கோளுடனும் ஆக்கப்படுகின்றன என்று பாடசாலையின் நோக்கம் மற்றும் குறிக்கோள் பற்றிக் கூறப்பட்டுள்ளமை நோக்கத்தக்கதாகும். இலங்கைப் பாடசாலைகளில் இந்துசமயம் கற்பித்தல் பற்றி செய்யப்பட்டுள்ள ஆய்விலே (உமாபதிசிவம்,1986) இந்துசமயக் கல்வியின் அவசியம், இந்துசமயக் கல்வியின் வரலாற்றுப் பின்னணி, இந்துசமயம் கற்பித்தலுக்கு உதவிய சான்றோர்கள் மற்றும் என்னென்ன நிறுவனங்கள் உதவியுள்ளன என்பனவும், இந்துசமயம் கற்பித்தலில் துணைச் சாதனங்கள் பற்றியும் எடுத்துக்கூறப்பட்டுள்ளது. இந்த ஆய்வானது இந்துசமயக்கல்வியின் முக்கியத்துவத்தை எடுத்துக்காட்டுவதாக உள்ளது. இந்துக்களின் சமூக வாழ்க்கைக்கு சமயக்கல்வியின் அவசியம் என்ற தலைப்பிலே மேற்கொள்ளப்பட்ட ஆய்வு (கதிர்காமநாதர்) சமயக்கல்வியின் தேவையை உணர்த்துவதாக உள்ளமை குறிப்பிடத்தக்கதாகும். இருபதாம் நூற்றாண்டில் இந்தியக் கல்வி மரபில் விழுமியங்கள் என்ற ஆய்வு (ஜெயலெட்சுமி) விழுமியக்கல்வி பற்றிய கருத்துக்களை விளக்குவதாக அமைந்துள்ளது. அத்துடன் சமயம் என்பது மனிதனுக்கு அன்பு, பணிவு, பொறை, அடக்கம் போன்ற சிறந்த பண்புகளை அளித்து, மனிதனை மனிதத் தன்மையுடையோனாக்குவதை எடுத்துக் கூறுவதாக உள்ளது.

பள்ளிக் கூடங்களில் சமயக்கல்வி கற்பித்தலின் அவசியம் மற்றும் விவேகானந்தர், மகாத்மா காந்தியடிகளின் சிந்தனைகள், சமயக்கல்வியின் மூலமாகப் பெற்றுக் கொள்ளக்கூடிய பயன்கள் என்பன பற்றி (ஜெயலெட்சுமி,2004) விளக்குகிறார். குமரகுருபரன்பிள்ளை "திருமந்திரம்" என்ற நூலில் (1960) நற்பண்புகள் பலவற்றைக் கூறியுள்ளார்.

பாலபாடம் நான்காம் புத்தகம்(2004) மாணவர்களுக்கு விளங்கும் வகையிலே அவர்களிடத்தில் வளர்த்துக் கொள்ளப்படவேண்டிய ஒழுக்க, நற்பண்புகளைக் கூறும் வகையில் அமைந்துள்ளது. சித்தாந்த விளக்கிற் சைவக்கிரியைகள் என்ற நூலிலே (கந்தையா,1978) சைவசமயி ஒருவருக்கு நிகழ்த்தப்படவேண்டிய பூர்வ, அபரக் கிரியைகள் பற்றியும், மற்றும் விரதமும், பிறவும் என்ற விடயத்திலே விரதம் என்றால் என்ன என்பது பற்றியும், கருணையினுடைய பெருமை பற்றியும் பல விடயங்கள் இடம்பெற்றுள்ளன. சைவசமய பாடத்தில் நற்பண்புகள் பற்றிய கருத்துக்கள் பல இடம்பெற்றுள்ளன. இவ்வாறு பலவிதமான கருத்துக்கள் நூல்கள் பலவற்றில் இடம்பெற்றாலும் கூட மாணவர்களிடத்தில் அந்த நற்பண்புகளை வளர்த்தலில் சைவசமய பாடம் எந்தளவு பங்களிப்பைச் செய்கின்றது என்ற கருத்து இடம்பெறவில்லை என்பது குறிப்பிடத்தக்கதாகும்.

ஆய்வு முறையியல்

சைவசமய பாடத்தைக் கற்பிப்பதன் ஊடாக மாணவர்களிடத்தில் நற்பண்புகளை வளர்த்தல் என்ற ஆய்வானது அளவை முறை (Survey Rrsearch) ஆய்வு முறையாகும். இவ் ஆய்வானது பெரும்பாலும் கல்விப்புல மேம்பாட்டில் கல்விசார் பிரச்சினைகள் பற்றிய ஆய்வில் பின்பற்றப்படுவதாகக் கூறப்படுகிறது.

தரவு சேகரித்தல்

இவ் ஆய்வு முதல் நிலைத்தரவுகள், துணைநிலைத் தரவுகள் என்பவற்றை அடிப்படையாகக் கொண்டு மேற்கொள்ளப்படுகின்றது.

இந்த ஆய்வில் முதல்நிலைத் தரவுகள் பின்வருமாறு பெறப்பட்டன.

- மாணவர்களுக்கு வழங்கப்பட்ட வினாக்கொத்தின் மூலம் பெறப்பட்ட தரவுகள் மற்றும் இந்த ஆய்வில் ஆய்வாளரால் பெறப்பட்ட துணை நிலைத்தரவுகள் பின்வருமாறு.
- ஒழுக்க நற்பண்புகள் தொடர்பான சைவசமய நூல்கள் மற்றும் சஞ்சிகைகள்
- இணையத்தளத்தில் பெறப்பட்ட தரவுகள்
- ஒழுக்க, நற்பண்புகள் தொடர்பாக உள்ள ஆய்வறிக்கைகள் என்பனவாகும்.

ஆய்வுக் கருவிகள்

இவ்வாய்வுக்கான தரவுகள் பின்வரும் ஆய்வுக்கருவிகள் மூலம் பெறப்பட்டன.

1. வினாக்கொத்து முறை
2. நூல்கள், சஞ்சிகைகள்

குடித்தொகையும், மாதிரியெடுப்பும்

யாழ் மாவட்ட கல்வி வலயங்களுள் ஒன்றான வலிகாமம் கல்வி வலயத்துக்குட்பட்ட பாடசாலையான இணுவில் இந்துக்கல்லூரி ஆனது 520 மாணவர்களைக் குடித்தொகையாக உள்ளடக்கியுள்ளது. அதிலே சைவசமய பாடம் கற்கும் மாணவர்கள் 500 பேர் ஆவர். இவர்களுள்ளே தரம் 6-8 வரையுள்ள மாணவர்களில் 80 மாணவர்களை மாத்திரம் எழுமாற்று முறைமூலம் தெரிவு செய்து அவர்களுக்கு சைவசமயபாடம் தொடர்பாகக் காணப்படும் விருப்பு, மற்றும் நற்பண்புகளான அன்பு, ஒழுக்கம், சமூகநலன்கள். என்பவற்றை அடிப்படையாகக் கொண்டு ஆய்வாளரால் தரவுகளைப் பெற்றுக்கொள்ளும் நோக்கில் மாணவர்களுக்கு வினாக்கொத்து வழங்கப்பட்டது. அவற்றுள் 74 வினாக்கொத்துக்கள் மீளப்பெறப்பட்டன. இது 92.5% பதிலளிப்பு வீதமாகும். இறுதியில் 74 வினாக்கொத்துக்களில் 69 வினாக்கொத்துக்கள் பயன்படுத்தக் கூடியதாகக் காணப்பட்டன. இது மாதிரியில் 86.25% வீதமாகும். அட்டவணை 1 இவ்வாய்வில் பயன்படுத்தப்பட்ட மாதிரி எடுப்பின் சுருக்கத்தினை பிரதிபலிக்கின்றது.

அட்டவணை 1: மாதிரி எடுப்பின் சுருக்கம்

ஆண்டு	மாதிரி	மீளளிப்பு எண்ணிக்கை	மீளளிப்பு வீதம்	பயன்படுத்த கூடியது	பயன்படுத்த கூடிய வீதம்	பயன்படுத்த முடியாதது	பயன்படுத்த (முடியாதவையின் வீதம்
ஆண்டு 6	28	25	89.29 %	23	82.14 %	02	7.14 %
ஆண்டு 7	23	21	91.30 %	20	86.96 %	01	4.35 %
ஆண்டு 8	29	28	96.56 %	26	89.66 %	02	6.90 %
மொத்தம்	**80**	**74**	**92.50 %**	**69**	**86.25%**	**05**	**6.25 %**

அவற்றிலே சைவசமயபாடம் சார்ந்த பொதுவான வினாக்களாக ஏழு வினாக்களும், அன்பு பற்றியதாக ஐந்து வினாக்களும், ஒழுக்கம் சார்ந்தனவயாகப் ஒன்பது வினாக்களும், சமூகநலன்கள் என்ற தலைப்பில் ஐந்து வினாக்களும் தயாரித்து மாணவர்களுக்கு வழங்கப்படுகின்றது. கொடுக்கப்பட்ட வினாக்களுக்கு மாணவர்கள் அளித்த விடைகளைக் கொண்டு ஆய்வு மேற்கொள்ளப்படுகின்றது.

ஆய்வின் கருதுகோள்

ஆய்வின் கருதுகோளாக அமைபவை,

- ஆண்டு ரீதியில் மாணவர்களின் சைவசமயக்கல்வி விருப்பு அதிகரிப்பதாக காணப்படுகின்றது
- சைவசமயக் கல்வியானது அன்பு, ஒழுக்கம், சமூக நலன்களை வளர்ப்பதில் ஆதிக்கம் செலுத்துகின்றது.

தரவுப் பகுப்பாய்வு

இவ் ஆய்வு விடயத்தின் பகுப்பாய்வானது அட்டவணைகள், வரைபுகள், t–பரீட்சை, ஒரு வழியிலான மாறற்றிறன் பகுப்பாய்வு (One Way ANOVA), இணைபு மற்றும் பிற்செலவு பகுப்பாய்வுகள் என்பனவற்றை உள்ளடக்கியுள்ளது.

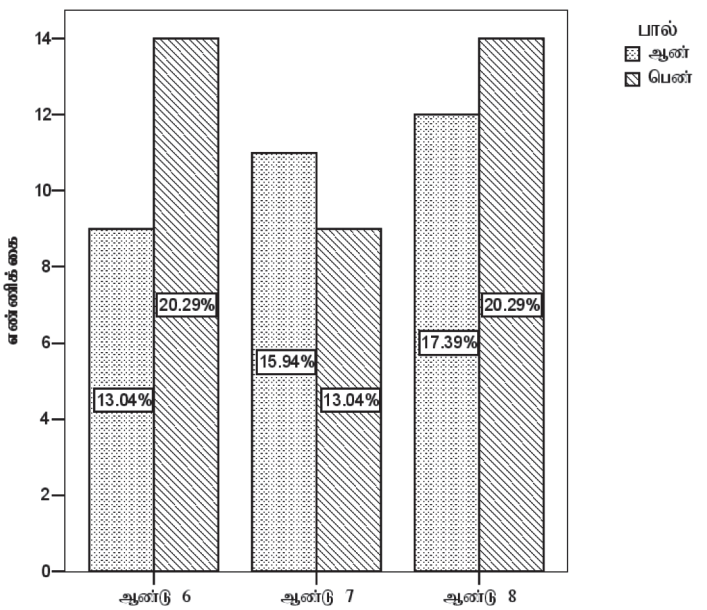
விபரண ரீதியான பகுப்பாய்வு

இங்கு மாதிரியாக எடுக்கப்பட்ட மாணவர்கள் தொடர்பான விபரம் அட்டவணை 2 இல் காட்டப்பட்டுள்ளது. மாதிரியில் 53.6% (*N*= 37) மானவர்கள் பெண்களாவர். ஆண்டு 6, ஆண்டு 7, ஆண்டு 8 மாணவர்கள் முறையே 33.3%, 29.0 %, 37.7% வீதமாகும்.

அட்டவணை 2: மாதிரியாக எடுக்கப்பட்ட மாணவர்களின் விபரம்

தலைப்பு	வகை	எண்ணிக்கை	வீதம் (%)
பால்	ஆண்	32	46.4 %
	பெண்	37	53.6 %
ஆண்டு	ஆண்டு 6	23	33.3 %
	ஆண்டு 7	20	29.0 %
	ஆண்டு 8	26	37.7 %

ஆண்டு ரீதியாக மாணவர்களின் பால் நிலைகளை வெளிக்காட்டும் சலாகை வரைபு கீழே காட்டப்பட்டுள்ளது.



உரு 1 : ஆண்டு நிலை மற்றும் பால் நிலை சலாகை வரைபு

இங்கு ஆண்டு 6 ல் 13.04% (N = 9) ஆன ஆண் மாணவர்களும், 20.29% (N = 14) மாணவிகளும் உள்ளடக்கப்பட்டுள்ளனர். ஆண்டு 7 ல் 15.94% (N= 11) ஆன ஆண் மாணவர்களும், 13.04% (N= 9) மாணவிகளும், உள்ளடக்கப்பட்டுள்ளனர். ஆண்டு 8 ல் 17.39% (N=12) ஆன ஆண் மாணவர்களும், 20.29% (N= 14) மாணவிகளும் உள்ளடக்கப்பட்டுள்ளனர்.

மாணவர்கள் சைவசமயக் கல்வியின் விருப்பு, அன்பு, ஒழுக்கம் மற்றும் சமூகநலன் அக்கறை தொடர்பான வினாக்கள் கேட்கப்பட்டன. அவற்றின் இடை மற்றும் நியமவிலகல் பெறுபேறுகள் அட்டவணை 3இல் காட்டப்பட்டுள்ளது.

அட்டவணை 3 : சைவசமயக்கல்வி , அன்பு, ஒழுக்கம் மற்றும் சமூகநலன் என்பனவற்றின் இடை மற்றும் நியமவிலகல்

மாறிகள்	இடை	நியமவிலகல்
சைவசமயக் கல்வி	4.32	0.31
அன்பு	4.42	0.28
ஒழுக்கம்	4.22	0.31
சமூகநலன்	4.28	0.43

சைவசமயக் கல்வியின் இடையானது 4.32 ஆகவும், அதன் நியமவிலகல் 0.31 ஆகவும் காணப்படுகின்றது. எனவே, மாணவர்கள் சைவசமயக் கல்வியில் கூடுதலான விருப்பினை கொண்டுள்ளார்கள் எனலாம் ($M = 4.32$). மேலும் மாணவர்களின் அன்பு, ஒழுக்கம் மற்றும் சமூகநலன் இடைகள் முறையே 4.42, 4.22, 4.28 ஆக காணப்படுகின்றன. இந்த இடைப் பெறுமதிகள் கூடுதலாக காணப்படுவதால் மாணவர்கள் சிறந்த அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்களை பேணுபவர்களாகக் காணப்படுகின்றார்கள். மாணவர்களுக்கு பாலர் வகுப்பில் இருந்தே பாடசாலைகளில் சைவசமய பாடத்தின் ஊடாக அன்பு, ஒழுக்கம், சமூகநலன் ஆகிய நற்பண்புகள் கற்பிக்கப்பட்டு வருகின்றமையால் அவர்கள் அந்த நற்பண்புகளை பேணுபவர்களாகவும் அதன் வழி ஒழுகுபவர்களாகவும் காணப்படுகின்றமை இதற்கான நியாயப்பாடாகக் காணப்படுகின்றது.

ஆண்டு நிலையும் சைவசமயக் கல்வி நிலையும்

ஆண்டு நிலைக்கும் சைவசமயக் கல்விக்கும் இடையே வேறுபாடு காணப்படுகின்றதா என்பதனை அறிந்துகொள்வதற்காக ஒரு வழியிலான மாறற்றிறன் பகுப்பாய்வு (One way ANOVA) பயன்படுத்தப்படுகின்றது. பரீட்சையின் பெறுபேறு கீழ்வரும் அட்டவணை 4இல் தரப்பட்டுள்ளது.

அட்டவணை 4: ஆண்டு நிலைக்கும் சைவசமயக் கல்விக்குமான அனோவா பரீட்சை

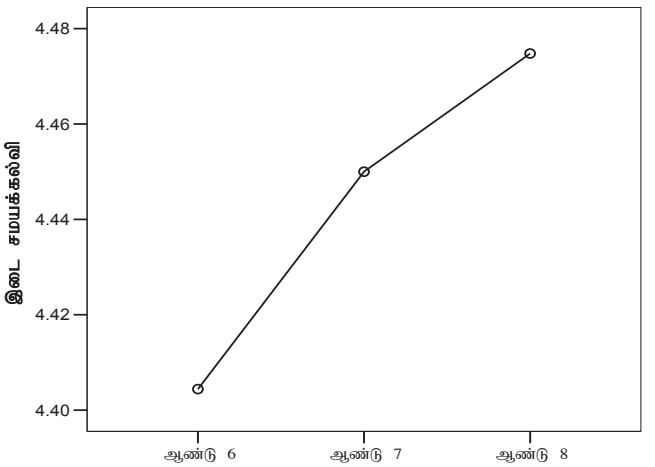
மாறி	வர்க்கத்தின் மொத்தம்	df	இடை வர்க்கம்	F	Sig.
குழுக்களுக்கு இடையில்	0.63	02	0.31	3.64	0.03
குழுக்களுக்குள்	5.69	66	0.09		
மொத்தம்	6.32	68			

மேற்காட்டப்பட்ட அட்டவணையின்படி, ஆண்டு ரீதியில் மாணவர்களுக்கும் சைவசமயக் கல்விக்கும் இடையே வேறுபாடு காணப்படுகின்றது. எந்த ஆண்டு மாணவர்கள் உண்மையில் வேறுபடுகின்றார்கள் என்பதை கண்டறிவதற்காக Tukeyஇன் போஸ்ட் கொக் பரீட்சை (Post Hoc Tests) மேற்கொள்ளப்பட்டது. அதன் சுருக்கம் கீழ் வரும் அட்டவணை 5இல் தரப்பட்டுள்ளது.

அட்டவணை 5 : ஆண்டு நிலைக்கும் சைவசமயக் கல்விக்குமான போஸ்ட் கொக்பரீட்சை

ஆண்டு குழு(I)	ஆண்டு குழு(J)	இடைவித்தியாசம்(I-J)	Sig
ஆண்டு 6	ஆண்டு 7	-0.19	.10
	ஆண்டு 8	-0.21	.04
ஆண்டு 7	ஆண்டு 6	0.19	.10
	ஆண்டு 8	-0.03	.96
ஆண்டு 8	ஆண்டு 6	0.21	.04
	ஆண்டு 7	0.03	.96

5% பொருண்மை மட்டத்தில் (Significance Level) ஆண்டு 6 மாணவர்களும், ஆண்டு 8 மாணவர்களும் மாத்திரம் வேறுபடுகின்றார்கள். அதாவது, ஆண்டு 6 மாணவர்களை காட்டிலும் ஆண்டு 8 மாணவர்கள் கூடுதலாகச் சைவசமயத்தை விரும்புவர்களாக் காணப்படுகின்றனர். ஆனால், ஆண்டு 7 மாணவர்கள் ஆண்டு 6 மாணவர்களை காட்டிலும் கூடுதலாக சைவசமயத்தை விரும்புகின்ற போதிலும் அது கணிசமான மட்டத்தில் வித்தியாசப்படவில்லை. இதனை கீழ் வரும் இடை வரைபடம் 2 காட்டுகின்றது.



உரு 2 : இடை வரைபடம் - ஆண்டு நிலைக்கும் சைவசமயக் கல்விக்கும்

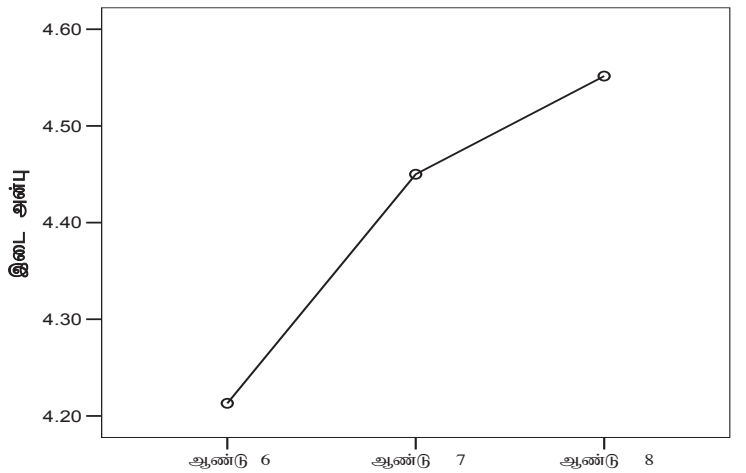
ஆண்டு நிலையும் அன்பும்

ஆண்டு நிலைக்கும் அன்புக்கும் இடையே வேறுபாடு காணப்படுகின்றதா என்பதனை அறிந்துகொள்வதற்காக ஒரு வழியிலான மாறற்றிறன் பகுப்பாய்வு (One way ANOVA) பயன்படுத்தப்படுகின்றது. பரீட்சையின் பெறுபேறு கீழ்வரும் அட்டவணை 6 இல் தரப்பட்டுள்ளது.

அட்டவணை 6: ஆண்டு நிலைக்கும் அன்புக்குமான அனோவா பரீட்சை

மாறி	வர்க்கத்தின் மொத்தம்	df	இடை வர்க்கம்	F	Sig.
குழுக்களுக்கு இடையில்	0.43	02	0.21	1.36	0.26
குழுக்களுக்குள்	10.34	66	0.16		
மொத்தம்	10.77	68			

மேற்காட்டப்பட்ட அட்டவணையின்படி, 5%பொருண்மை மட்டத்தில் ஆண்டு ரீதியில் மாணவர்களுக்கும் அன்புக்கும் இடையே வேறுபாடு காணப்படவில்லை. ஆனால், ஆண்டு ரீதியில் மாணவர்களின் அன்பு அதிகரிக்கின்ற போதிலும் அது 5% பொருண்மை மட்டத்திலில்லை. இதனை கீழ் வரும் இடை வரைபடம் 3 காட்டுகின்றது. ஆண்டு ரீதியில் சமயக்கல்வியும் அதிகரிப்பது குறிப்பிடதக்கது.



உரு 3 : இடை வரைபடம் ஆண்டு நிலைக்கும் அன்புக்கும்

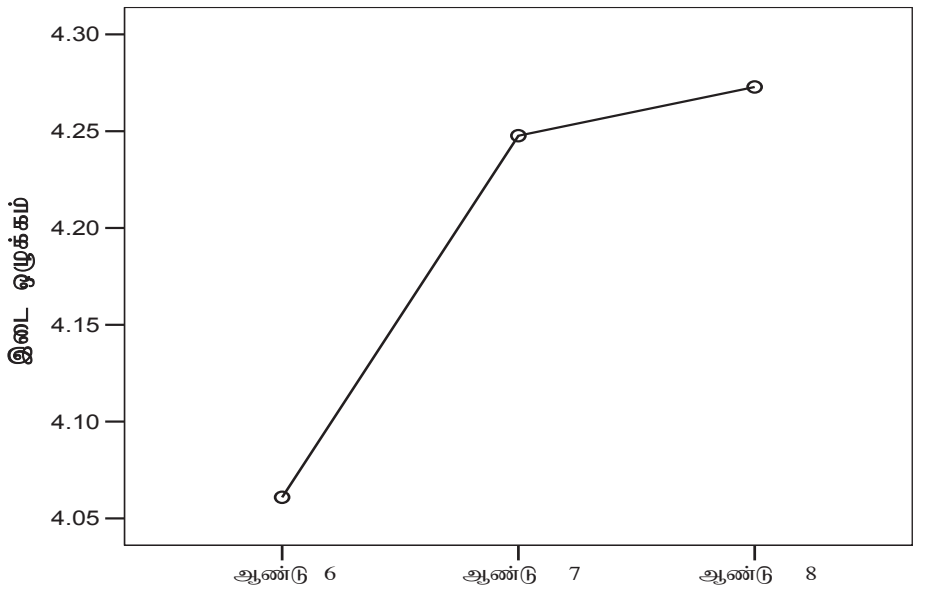
ஆண்டு நிலையும் ஒழுக்கமும்

ஆண்டு நிலைக்கும் ஒழுக்கத்திற்கும் இடையே வேறுபாடு காணப்படுகின்றதா என்பதனை அறிந்துகொள்வதற்காக ஒரு வழியிலான மாறற்றிறன் பகுப்பாய்வு (One way ANOVA) பயன்படுத்தப்படுகின்றது. பரீட்சையின் பெறுபேறு கீழ்வரும் அட்டவணை 7 இல் தரப்பட்டுள்ளது.

அட்டவணை 7: ஆண்டு நிலைக்கும் ஒழுக்கத்திற்குமான அனோவா பரீட்சை

மாறி	வர்க்கத்தின் மொத்தம்	df	இடை வர்க்கம்	F	Sig.
குழுக்களுக்கு இடையில்	0.06	02	0.03	0.27	0.76
குழுக்களுக்குள்	7.43	66	0.11		
மொத்தம்	7.49	68			

மேற்காட்டப்பட்ட அட்டவணையின்படி, 5% பொருண்மை மட்டத்தில் ஆண்டு ரீதியில் மாணவர்களுக்கும் ஒழுக்கத்திற்கும் இடையே வேறுபாடு காணப்படவில்லை. ஆனால் ஆண்டு ரீதியில் மாணவர்களின் ஒழுக்கம் அதிகரிக்கின்ற போதிலும் அது 5% பொருண்மை மட்டத்திலில்லை. இதனை கீழ் வரும் இடை வரைபடம் 4 காட்டுகின்றது.



உரு 4 : இடை வரைபடம் ஆண்டு நிலைக்கும் ஒழுக்கத்திற்கும்

ஆண்டு நிலையும் சமூகநலன் நிலையும்

ஆண்டு நிலைக்கும் சமூகநலனுக்கும் இடையே வேறுபாடு காணப்படுகின்றதா என்பதனை அறிந்துகொள்வதற்காக ஒரு வழியிலான மாறற்றிறன் பகுப்பாய்வு (One way ANOVA) பயன்படுத்தப்படுகின்றது. பரீட்சையின் பெறுபேறு கீழ்வரும் அட்டவணை 8 இல் தரப்பட்டுள்ளது.

அட்டவணை 8: ஆண்டு நிலைக்கும் சமூகநலனுக்கும் அனோவா பரீட்சை

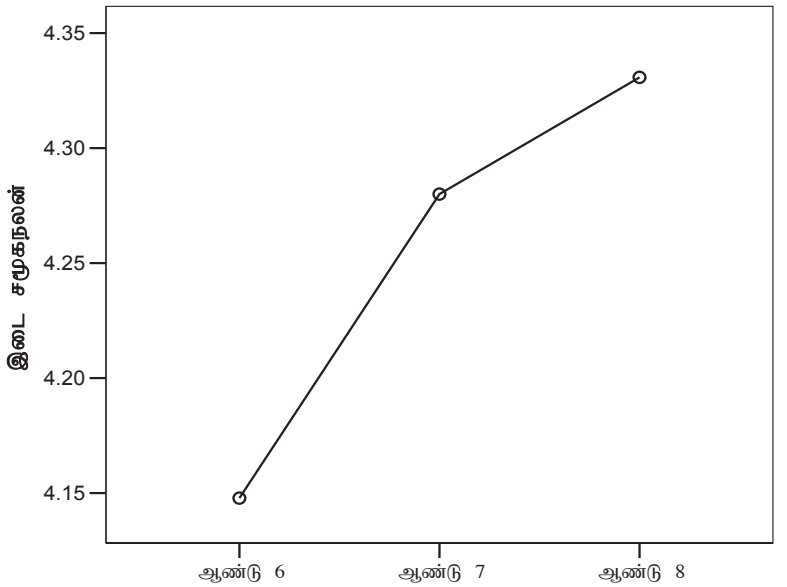
மாறி	வர்கத்தின் மொத்தம்	df	இடை வர்க்கம்	F	Sig.
குழுக்களுக்கு இடையில்	1.44	02	0.72	6.16	0.00
குழுக்களுக்குள்	7.74	66	0.12		
மொத்தம்	9.18	68			

மேற்காட்டப்பட்ட அட்டவணையின்படி, ஆண்டு ரீதியில் மாணவர்களுக்கும் சமூக நலனுக்கும் இடையே வேறுபாடு காணப்படுகின்றது. எந்த ஆண்டு மாணவர்கள் உண்மையில் வேறுபடுகின்றார்கள் என்பதை கண்டறிவதற்காக Tukeyஇன் போஸ்ட் கொக் பரீட்சை (Post Hoc Tests) மேற்கொள்ளப்பட்டது. அதன் சுருக்கம் கீழ் வரும் அட்டவணை 9இல் தரப்பட்டுள்ளது.

அட்டவணை 9: ஆண்டு நிலைக்கும் சமூகநலனுக்குமான போஸ்ட் கொக்பரீட்சை

ஆண்டு குழு(I)	ஆண்டு குழு(J)	இடை வித்தியாசம்(I-J)	Sig
ஆண்டு 6	ஆண்டு 7	-0.24	.07
	ஆண்டு 8	-0.34	.00
ஆண்டு 7	ஆண்டு 6	0.24	.07
	ஆண்டு 8	-0.10	.58
ஆண்டு 8	ஆண்டு 6	0.34	.00
	ஆண்டு 7	0.10	.58

1% பொருண்மை மட்டத்தில் (Significance Level) ஆண்டு 6 மாணவர்களும் ஆண்டு 8 மாணவர்களும் மாத்திரம் வேறுபடுகின்றார்கள். அதாவது ஆண்டு 6 மாணவர்களை காட்டிலும் ஆண்டு 8 மாணவர்கள் கூடுதலாக சமூகநலனை விரும்புவர்களாக காணப்படுகின்றனர். ஆனால் ஆண்டு 7 மாணவர்கள் ஆண்டு 6 மாணவர்களை காட்டிலும் கூடுதலாக சமூகநலனை விரும்புகின்ற போதிலும் அது பொருண்மை மட்டத்தில் வித்தியாசப்படவில்லை. இதனை கீழ் வரும் இடை வரைபடம் 5 காட்டுகின்றது.



உரு 5: இடை வரைபடம் ஆண்டு நிலைக்கும் சமூகநலனுக்கும்

இணைவுப் பகுப்பாய்வு

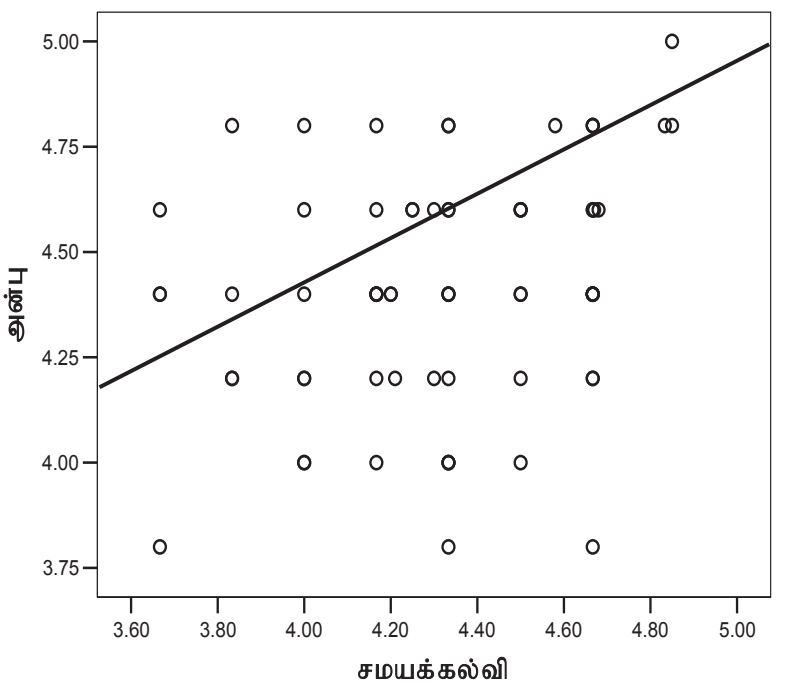
சைவசமயக்கல்வியுடன் அன்பு, ஒழுக்கம், மற்றும் சமூக நலன்களுக்குமிடையே எவ்வாறான தொடர்பு காணப்படுகின்றது என்பதனை அறிவதற்காக இணைவுப் பகுப்பாய்வு மேற்கொள்ளப் படுகின்றது. கீழ்வரும் அட்டவணை 10 ஆனது இணைவுப் பகுப்பாய்வின் சுருக்கத்தினைத் தருகின்றது.

அட்டவணை 10: இணைவுப் பகுப்பாய்வு

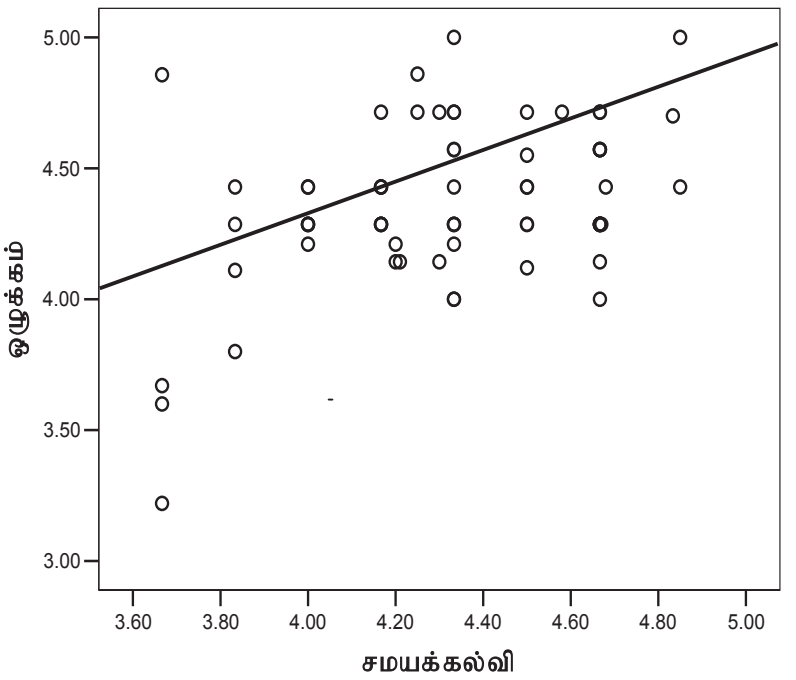
		1	2	3	4
1	சைவசமயக்கல்வி	1.00			
2	அன்பு	0.27*	1.00		
3	ஒழுக்கம்	0.41**	0.39**	1.00	
4	சமூகநலன்	0.38**	0.04	.59**	1.00

* 5 % பொருண்மை மட்டத்தில் (Significance level at 5%) இணைவு
**1 % பொருண்மை மட்டத்தில் (Significance level at 1%) இணைவு

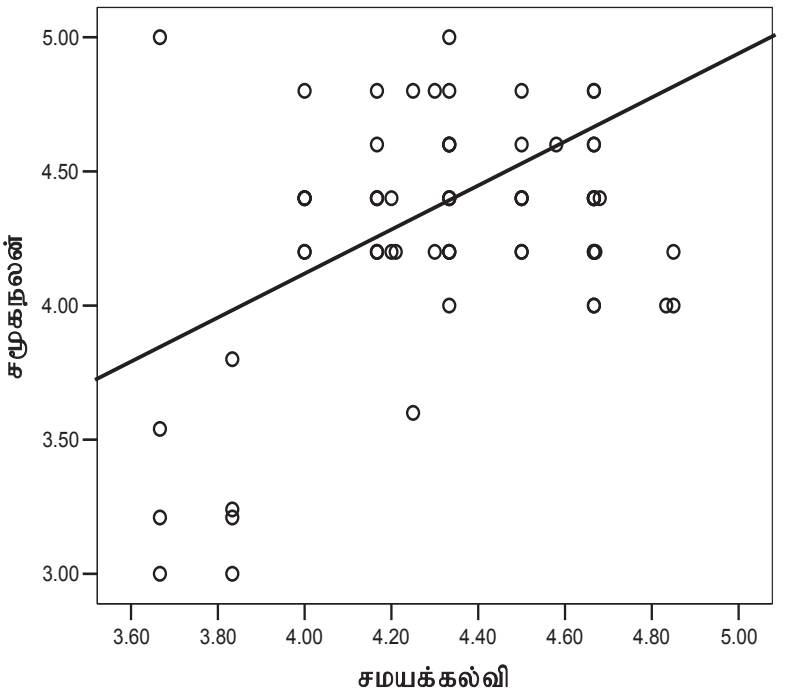
இவ் அட்டவணையின்படி, முதலில் சைவசமயக்கல்விக்கும் அன்புக்கும் இடையில் நேர் இணைவு காணப்படுகின்றது. அதாவது, சைவசமயக்கல்வி தொடர்பான விருப்பு அதிகரிக்கின்றக போது மாணவர்களின் அன்பு அதிகரிக்கும் (r= .27). இது 5% பொருண்மை மட்டத்தில் (Significance level at 5%) ஏற்றுக்கொள்ளப்படுகின்றது. இதனை பின்வரும் வரைபடம் மூலம் காட்டலாம்.



அடுத்து சைவசமயக்கல்விக்கும் ஒழுக்கத்திற்கும் இடையில் நேர் இணைவு காணப்படுகின்றது. அதாவது சைவசமயக்கல்வி தொடர்பான விருப்பு கூடுகின்றபோது மாணவர்களின் ஒழுக்கமும் அதிகரிக்கும்(r=.41). இது 1% பொருண்மை மட்டத்தில் (Significance level at 5%) ஏற்றுக்கொள்ளப்படுகின்றது. இதனை பின்வரும் வரைபடம் மூலம் காட்டலாம்



சைவசமயக்கல்விக்கும் சமூகநலனுக்கும் இடையிலும் நேர் இணைவே காணப்படுகின்றது. அதாவது சைவசமயக்கல்வி தொடர்பான விருப்பு அதிகரிக்கின்றபோது மாணவர்களின் சமூகநலப் பண்புகளும் அதிகரிக்கும் (r= .38). இது 1% பொருண்மை மட்டத்தில் (Significance level at 5%) ஏற்றுக்கொள்ளப்படுகின்றது. இதனை பின்வரும் வரைபடம் மூலம் காட்டலாம்



எனவே சைவசமயக்கல்விக்கும் அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்களுக்கிடையே நேர்த் தொடர்பு காணப்படுகின்றது. அதாவது சைவசமயக்கல்வி தொடர்பான விருப்பு அதிகரிக்கின்றபோது மாணவர்களின் அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்களும் அதிகரிப்பதாகக் காணப்படுகின்றது. அடுத்து சைவசமயக்கல்வியினால் எவ்வளவு தூரம் அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்கள் பிரதிநிதித்துவப்படுகின்றது என்பதனை அறிவதற்காக பிற்செலவு பகுப்பாய்வானது மேற்கொள்ளப்படுகின்றது.

பிற்செலவுப் பகுப்பாய்வு

அட்டவணை 11 ஆனது பிற்செலவு பகுப்பாய்வின் சுருக்கத்தினை காட்டுகின்றது.

அட்டவணை 11 : பிற்செலவுப் பகுப்பாய்வு

மாதிரி(Model)	நியமமாக்கப்படாத குணகம் (Unstandardized Coefficients)		நியமமாக்கப்பட்டகுணகம்	t	Sig.
	பீற்றா (Beta)	நியம தவறு Std. Error	பீற்றா (Beta)		
மாறிலி	7.97	1.15		6.95**	.00
சைவசமயக்கல்வி	1.18	.26	0.48	4.45**	.00

*p< .05; **p< .01, R Square 0 .43 F = 19.78** df= 1, 67

இவ் அட்டவணையின்படி, நேர் பீற்றா நிறை 1.18 அனது சைவசமயக்கல்விற்கும் அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்களுக்குமிடையே நேர்த் தொடர்பினை வெளிக் காட்டுகின்றது. எனவே சைவசமயக்கல்வியானது அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்களை அதிகரிக்கும் எனலாம். அதாவது சைவசமயக்கல்வியானது அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்களை அதிகரிக்கும் என்ற கருதுகோளானது ஏற்றுக்கொள்ளப்படுகின்றது.

மேலும், சார் மாறிக்கும் (அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்) சாரா மாறிக்கும் (சைவசமயக்கல்வி) இடையிலான தொடர்பானது துணிதற் குணகத்தினால்(R^2) பிரதிநிதித்துவப் படுத்தப்படும். இங்கு R^2 ஆனது 0.43 ஆக காணப்படுகின்றது. அதாவது 43% அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்கள் சைவசமயக்கல்வியினால் தீர்மானிக்கப்படுகின்றது. இவ் முடிவானது 99 மூடநம்பிக்கை மட்டத்தில் ஏற்றுக்கொள்ளப்படுகின்றது (அலது 1 % Significance level).

தொகுப்பும் நிறைவும்

இவ் ஆய்வின் பிரதான முடிவாக சைவசமயக்கல்வியானது அன்பு, ஒழுக்கம், சமூகநலன்களில் செல்வாக்கு செலுத்துவதாக காணப்படுகின்றது. அதாவது சைவசமயக்கல்வி விருப்பானது அதிகரிக்கின்ற போது மாணவர்களின் அன்பு, ஒழுக்கம், மற்றும் சமூகநலன் அதிகரிப்பவையாக காணப்படுகின்றது. புள்ளிவிபர ரீதியாக மேற்கொள்ளப்பட்ட பகுப்பாய்வின்படி, அன்பு, ஒழுக்கம், சமூகநலன் என்பவற்றில் 43%ஆன பங்களிப்பை சைவசமயக்கல்வியானது வழங்குவதாக காணப்படுகின்றது.

ஆண்டு நிலைக்கும் சைவசமயக்கல்விக்கும் இடையே மேற்கொள்ளப்பட்ட பகுப்பாய்வில் ஆண்டு ரீதியில் மாணவர்களின் சைவசமயக்கல்வி விருப்பு அதிகரிப்பதாக காணப்படுகின்றது 5% பொருண்மை மட்டத்தில் ஆண்டு 6 மாணவர்களுக்கும், ஆண்டு 8 மாணவர் களுக்கும் இடையே வேறுபாடு காணப்படுகின்றது. அதாவது ஆண்டு 8 மாணவர்கள், ஆண்டு 6 மாணவர்களை காட்டிலும் கூடுதலாக சைவசமயக்கல்வியை விரும்புவர்களாக காணப்படுகின்றார்கள். மேலும் அன்பு, ஒழுக்கம், சமூகநலன் ஆண்டு ரீதியில் அதிகரிக்கின்றன.

இவ் ஆய்வில் அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்களில் சைவசமயக்கல்வியின் செல்வாக்கு தொடர்பாக ஆராயப்பட்டது. ஆனால், சைவசமயக்கல்வி தவிர்ந்த ஏனைய காரணிகளும் அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்களில் செல்வாக்கு செலுத்தும். உதாரணமாக குடும்பநிலை, பெற்றோரின் நடத்தை, சூழல் என்பனவற்றை குறிப்பிடலாம். எனவே எதிர்கால ஆய்வில் சைவசமயம் தவிர்ந்த ஏனைய காரணிகளையும் கருத்தில் கொள்ளல் சிறப்பானதாக அமையும்.

மேலும் இவ் ஆய்வில் ஆண்டு 6 தொடக்கம் ஆண்டு 8 வரையுமான மாணவர்கள் மாத்திரம் கருத்தில் கொள்ளப்பட்டனர். ஆனால் சைவசமயக்கல்வியானது ஆண்டு 1 தொடக்கம் ஆண்டு 13 வரையும் கற்பிக்கப்படடுகின்றது. மேலும், மாணவர்களின் அன்பு, ஒழுக்கம் மற்றும் சமூகநலன்களில் தாக்கங்கள் நீண்ட காலத்தில் ஏற்படுபவையாக காணப்படுகின்றன. எனவே எதிர்கால ஆய்வில் ஏனைய ஆண்டு மாணவர்களையும் கருத்தில் கொள்ளல் சிறப்பானதாக அமையும்.

இவ் ஆய்வின் படி சைவசமயக்கல்வியானது அன்பு, ஒழுக்கம், சமூகநலன்களில் செல்வாக்கு செலுத்துவதாகக் காணப்படுகின்றது. அதாவது சைவசமயக்கல்வி விருப்பானது அதிகரிக்கின்ற போது மாணவர்களின் அன்பு, ஒழுக்கம், மற்றும் சமூகநலன் அதிகரிப்பதாகக் காணப்படுகின்றது. எதிர்கால ஆய்வில் சைவசமயம் தவிர்ந்த ஏனைய காரணிகளையும் (உதாரணமாக குடும்பநிலை, பெற்றோரின் நடத்தை, சூழல்) மற்றும் ஏனைய ஆண்டு மாணவர்களையும் கருத்தில் கொள்ளல் சிறப்பானதாக அமையும்.

உசாத்துணை நூல்கள்

ஆறுமுகம்,வ.(1989). *வகுப்பறைக் கற்பித்தல்.* யாழ்ப்பாணம்: செட்டியார் பதிப்பகம்.

உமாபதிசிவம்,வ.(1986*).இலங்கைப் பாடசாலைகளில் இந்துசமயம் கற்பித்தல்.*யாழ்ப்பாணம்:கல்வி முதுமாணிப்பட்டஆய்வு.

கதிர்காமநாதர்,க.*இந்துக்களின் சமூகவாழ்க்கைக்கு சமயக்கல்வியின் அவசியம்.* யாழ்ப்பாணம்:பட்டப்பின் தகைமைக்கான ஆய்வு.

கந்தையா,மு.(1978).*சித்தாந்த விளக்கிற் சைவக்கிரியைகள்.*யாழ்ப்பாணம்: ஸ்ரீசுப்பிரமணிய அச்சகம்.

கணேசலிங்கம்,ப.,இராஜேஸ்வரன்,ப.(2007*).இந்துப்பண்பாட்டியல்.*யாழ்ப்பாணம்: கல்வியியல் வெளியீட்டு நிலையம்.

கல்வி வெளியீட்டுத் திணைக்களம். (2001).*சைவநெறி தரம் 9.*கொழும்பு:அரசாங்க அச்சகக் கூட்டுத்தாபனம்.

கல்வி வெளியீட்டுத் திணைக்களம்.(2005).*சைவநெறி தரம் 8.*கொழும்பு:அரசாங்க அச்சகக் கூட்டுத்தாபனம்.

கல்வி வெளியீட்டுத் திணைக்களம்.(2006).*சைவநெறி தரம் 6.*கொழும்பு:அரசாங்க அச்சகக் கூட்டுத்தாபனம்.

கல்வி வெளியீட்டுத் திணைக்களம்.(2006).*சைவநெறி தரம் 10.*கொழும்பு:அரசாங்க அச்சகக் கூட்டுத்தாபனம்.

கல்வி வெளியீட்டுத்திணைக்களம்.(2007).*சைவநெறி தரம் 11.*கொழும்பு:கலர் பிரின்ஸ் அச்சகம்.

கல்வி வெளியீட்டுத்திணைக்களம்.(2007).*சைவநெறி தரம் 7.* கொழும்பு:கலர் பிரின்ஸ் அச்சகம்.

கல்வி வெளியீட்டுத்திணைக்களம்.(2008).*சைவநெறி தரம் 8.* கொழும்பு: ஹோமாகம அச்சகம்.

காசி,வ.(2003*).ஆரம்பக்கல்விக் கலைத்திட்டத்தில் சமூக விழுமியங்கள்.*யாழ்ப்பாணம்:கல்வி முதுதத்துவமாணிப்பட்ட ஆய்வு.

குமரகுருபரன் பிள்ளை,T.M.(1960).*திருமந்திரம்.* வைகுண்டம்: குமரகுருபரன் அச்சகம்.

கைலாசநாதக் குருக்கள்,கா.(1992).*சைவத்திருக்கோயிற் கிரியை நெறி.*பிறின்ற் பைக் லிமிட்டெட்.

கோபாலகிருஷ்ண ஐயர்,ப.(1992*).இந்துப் பண்பாட்டு மரபுகள்.*யாழ்ப்பாணம்: சிறி லக்ஷ்மி பிறஸ்.

சந்தானம்,எஸ்.(1994).*கல்வியும் சமூகமும்.*சென்னை: சந்தா பப்ளிசர்ஸ்.

சந்திரசேகரம், ப.(1975), கல்வித்தத்துவம், யாழ்ப்பாணம்: கூட்டுறவுத் தமிழ் நூற்பதிப்பு விற்பனைக்கழகம்.

சிவானந்த சர்மா,ப.(1992).*சைவாலயக் கிரியைகள்.*கொழும்பு: லிங்க ராஜ் பிறின்ற்.

சிவபாதசுந்தரம்,சு.(2000).*சைவக்கிரியை விளக்கம்.* யாழ்ப்பாணம்: பாரதி அச்சகம்.

ஸ்ரீதரன், இ.(2003).*சைவசமய தரிசனம்.*யாழ்ப்பாணம்: சைவப்பிரகாச அச்சுயந்திரசாலை.

ஸ்ரீலஸ்ரீ ஆறுமுகநாவலர் தர்மகர்த்தாசபை.(2004).*பாலபாடம் நான்காம் புத்தகம்.*யாழ்ப்பாணம்: சைவப்பிரகாச அச்சுயந்திரசாலை.

பிலேந்திரன்,ஞா.(1996).*விழுமியக் கல்வி,*.திருநெல்வேலி: கிறிஸ்தவ மன்றம் யாழ் பல்கலைக்கழகம்.

பரராஜசிங்கம், இ.,நடராசா,தி.(2003).*கல்வியியலாளன்.* யாழ்ப்பாணம்: ஸ்மாட் பிறிண்டஸ்.

மகாலிங்கம்,சிவ.(2005).*சிவஜோதி.*யாழ்ப்பாணம்: ஜய்ராம் பிறிண்டேஸ்.

முத்துலிங்கம்,ச. (1974).*கல்வியியல் ஓர் அறிமுகம்*.யாழ்ப்பாணம்: ஆசீர்வாதம் அச்சகம்.

ஜெயலெட்சுமி, இ.(2004).*சமுதாயக்கல்வி*, தஞ்சாவூர்: மகாவீர் பதிப்பகம்.

ஜெயலெட்சுமி, இ.(2008).*கல்வியின் சமூகவியல்*. யாழ்ப்பாணம்: சுரபி பதிப்பகம்.

ஜெயராசா, பா (2000).*ஆய்வு முறையியல்*,.யாழ்ப்பாணம்: கல்வியியல் ஆய்வுக்கழகம்.

வரதராசனார்,மு.(2000).*திருக்குறள்*.சென்னை: அப்பர் அச்சகம்.

Chandrasegaram, P. (1982).*The Hindu Religion Philosophical perspectives of Education*.Jaffna: Kalanilaya Atchakam.

Navaratnam, R. (1958).*New frontiers in east – west Philosophies of Education*.calcattu: orient Longman's private Ltd.

Radhakrishnan, S. (1967), *Religion in changing word London, George ollen and unwin* Ltd New York: Humanities press.

To ensure effective people participation……

Go to the people

Live among the people

Learn from the people

Plan with the people

Work with the people

Start with what the people know

Build on with what the people have

Teach by showing, learn by doing

Not a showcase, but a pattern

Not odds and ends, but a system

Not a piecemeal, but an integrated approach

Not to conform, but to transform

Not relief, but release

The village is important, but the villager is more important

The outsider can help, but insider must do this.

Dr. James Payne