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# Understanding Professional Information Needs of School Teachers in Sri Lanka and Identifying Factors Trigger for their Information Needs

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# Understanding Professional Information Needs of School Teachers in Sri Lanka and Identifying Factors Trigger for their Information Needs

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## Abstract

The purpose of this study is to examine school teachers' information needs, their satisfaction, purposes of information and the relationship between some selected factors and the information needs.The population of the study consisted of school teachers in government schools in Sri Lanka. The sample consisted with 440 teachers and cluster sampling method was applied for the sample selection. A self-administered questionnaire was used as the main data collection tool and the received data were analyzed by using SPSS (21.0). The study found that most of the teachers need information on particular subject that they taught, followed by classroom management and teaching resources. Most of them satisfied with information needs on particular subject that they taught, information on classroom management and lesson planning. Teachers require information for keeping up with current trends, guiding students' classroom activities and developing competence. The study found that there is no strong evidence of relationship between four selected factors and the teachers' information needs.

**Key words: Information needs, School teachers, User satisfaction, Sri Lanka**

## 1. Introduction

Information need is an important concept that employed when studying information seeking pattern of any user group or individuals. This concept has been defined differently by various authors. The fact that the concept is rather abstract and intangible makes it difficult to be given a clear cut meaning. Therefore Wilson (2000) asserted that, information needs has been a subject of debate within the field of user studies for many decades.

Anyway, Dervin (1983) deduced that information needs as "a state that arises within an individual, recommending some genre of a gap that requires filling. When applied to the word information, as in information need, what is suggested is a gap that can be filled with some knowledge or information." Information needs are thus a requirement that may lead someone to engage in an information seeking process to fill their knowledge gaps.

Moreover, an information need evolves from a realization of something missing, which requires the seeking of information that might contribute to understanding and meaning (Kuhlthau, 1993). Belkin, Oddy and Brooks (1982) perceived information to be a method used to solve problems. An information need emerges when a person recognizes a problematic situation or information gap, in which his or her prior knowledge, perceptions and surrounding exists, may fail to show a clear path for fulfilling of his or her desire successfully. (Case 2007, p. 333) Such an identified information need may lead to information seeking and the formulation of requests for information (Ingwersen and Järvelin, 2005, p.20).

It is evident from the research literature that there is very little research describing how and from where teachers obtain information to guide their classroom practices. (Landrum et al, 2002) Moreover, teachers require various types of information for teaching particularly for imparting knowledge with learners which is the main task of teaching and for self-development. (Adeoye and Popoola, 2011) Therefore the information needs of school teachers should be paid more attention as most important matter since the extent to which the teachers are informed determines to a large extent the knowledge to be imparted to the students.

On the other hand, if teachers may not receiving an effective information provision it may adversely affect for the learning outcomes of the students and impacts on education in a country as a whole. Therefore studying the information needs of school teachers and their level of satisfaction towards them are prime necessities and this study certainly will guide for establishing a formal systematic channel of information provision to meet school teachers' information needs.

Moreover, it was identified from the literature that no studies have yet been conducted in Sri Lanka to study information needs of school teachers and this research will be the pioneer study in Sri Lanka to fill that gap and to add to the knowledge in the area of information needs. This study certainly will be a guide for policy makers availing better and effective ways that information can be provided and upgrade information services to meet school teachers' information needs that required for quality education in a country. The research outcomes could be used as guidelines for establishing efficient and effective information provision through libraries, web based services and information centers for the school teachers.

Therefore the main focus of this study is to examine professional information needs of school teachers in Sri Lanka as understanding of information needs is imperative for designing and implementation of an appropriate information service for them. In addition to that the study examines the satisfaction level of teachers as means of meeting their information needs and the factors that trigger for their information needs. In order to get the comprehensive understanding about information needs of teachers, it is an imperative to study the possible factors that activate their information needs.

## 2. Research Objectives

The general objective of this study is to investigate the information needs of school teachers in Sri Lanka. The specific objectives of this study are:

1. To examine the type of professional information do teachers seek as information needs.
2. To determine the satisfaction level of information needs by the teachers
3. To investigate the purposes of teachers' information needs
4. To identify the relationship between four selected factors and teachers' information needs

## 3. Research Questions

The study aims to address the following key research questions and sub questions:

1. What are the information needs of school teachers in Sri Lanka?

   a) What type of professional information do teachers seek?
   b) What extent that teachers' information needs is satisfied?

   c) For what purpose(s) do teachers need information?

2. What are the relationships between teachers' information needs and the selected factors?

## 4. Review of related literature

Examining information need is the first step in understanding information seeking pattern of any user group or individuals. Based on information seeking theory, teachers will seek information when they perceive a gap in their knowledge. The present study considers an information need as an absence or dearth of information that creates an insufficiency of knowledge of people, in this study school teacher. The lack of knowledge required for teaching caused intense problems for the teachers as their main role is imparting knowledge with learners.

With regard the teachers' information needs, Mardis (2009, p. 1) mentioned that the literature surrounding teachers' development established that teachers have distinct needs of information that relevant to learning the syllabus content and the behavioural structure of their classrooms for a wide variety of learners. De la Vega and Puente (2010, p. 317) also established that teachers not only need information on subject that taught, pedagogy, instructional methods and information technology, but also problems that students encounter. Moreover, the study conducted by Attafuah (2015) revealed that teachers need information for teaching and learning and they need information for the preparation of lessons and teaching notes particularly at the beginning of a new term. (Attafuah, 2015)

Shulman (1987, p. 7) asserted that teachers convert the mastery of knowledge, expertise and dispositions into pedagogical descriptions and actions. Hence teachers require mainly four types of knowledge bases such as content knowledge, pedagogical knowledge, curriculum knowledge

and background information of learner which is imperative for effective teaching. The content knowledge which means the comprehension of subjects that taught in school and pedagogical knowledge that means the understanding of teaching methodology for teaching various subjects are indispensible for the teachers to perform their duty very well in school. Lan and Chang (2002) affirmed these findings and they found teachers' information needs pertained to know about learners they teach as well. In other words, teachers need information about the learners' academic and related problems which would hinder their academic performance in addition to the content knowledge that essential need for their teaching. (Lan & Chang, 2002).

Another study conducted by Bitso and Fouri (2012) to the assess information seeking pattern of geography teachers and they found that information on geography content, pedagogy, policies on education, syllabus related information, classroom management  and students' performance in examinations were mostly needed information for the teachers. Mundt (Mundt et al., 2006, p. 9) affirmed these findings and established that content knowledge, pedagogical knowledge and students' performance were the most needed information to perform three major roles as a teacher namely, lesson planning, teaching methods and evaluating students.

Similarly, Reid (2007) reported that in a national survey of public school teachers in the United States, teachers with fewer years of experience (3 or less) prioritized their learning needs as being about methods of teaching, student discipline strategies, and how to teach students with special needs, whereas teachers with more experience (19 or more years) prioritized their professional development needs as learning about how to integrate technology in instruction. Gordon (1991) compared the priority needs of beginning teachers across various studies conducted from1980 through 1991 and created a list of the top 10 priority needs. Novice teachers' priority needs were information on classroom management, school system, teaching materials, instructional management, student assessment, student motivation, effective teaching methods, students' individual needs, communication with colleagues and parents. (Gordon, 1991)

Shanmugam (1999) has investigated the Information Seeking Behaviour (ISB) of trainee teachers in two teacher training colleges within the state of Johor, Malaysia. The findings

revealed that the majority of the trainees' information needs are centered in their course work and there is a low awareness of the existence of information outside their field of study. The study further found that just less than half of them needed information on topics unspecified in this study. Information needs associated to the use of computers in information technology was the most frequent 'other need' mentioned by the student teachers. In another study Dilon (1997) described the information needs of the secondary school teachers in the rural New South Wales, Australia. Three aspects of professional development needs for use of and access to professional information are also mentioned there. The study has revealed that librarians have played a great role in providing information needs to secondary teachers and the computer network as a means to overcome the problems of teachers and geographical isolation.

In a similar project, Oosthuizen (1998) has determined the information needs of 206 teachers from 42 primary and secondary schools in the Orange Farm area in South Africa. The study suggested having a mobile library service for the teachers working in the area. Kolozs (1992) used a questionnaire survey to identify the information needs of the vocational secondary schools teachers. Teachers need information related to the subject they taught and the need for teaching information are the main findings of the study. The study also mentioned their satisfaction to special literature and half demands are able to be met by the school library.

When reviewing the related literature, it was further found that some demographical and professional factors influence for individuals' information seeking activities particularly when meet their information needs. (Johnson; 1997, Leckie; 2005 and Wilson & Walsh: 1996) Chowdhury (2004) noted that users' ISB depends on a number of factors, such as the professional and educational level of the user, the user's skills in accessing information sources, and the time available to search information systems. In addition, Hargittai and Hinnant (2006, p.58) maintained that when studying human information behaviour, variables that should not be ignored are socio-economic background, gender, age, ethnicity and education, because these things may well influence an individual's ISB. With regarding the studies conducted on school teachers' information seeking, Bitso (2012) revealed that demographic factors such as age, gender, profession, specialization, career stage and geographical location can influence for the teachers' ISB.

As it can be gleaned from the above reviewed literature, the most of the teachers acquire knowledge for getting proficiency of the subjects they taught and pedagogical knowledge on class room teaching. It was further found from the literature that an individual's ISB may be determined and influenced by a wide range of factors includes; demographic or personal factors such as age and gender, professional factors such as work experience and qualifications, environmental factors such as location etc. Therefore the current study selected four factors such as gender, age, experience and location and paid attention to discover any relationship between these factors and teachers' information needs.

## 5. Methodology

The study population was in- service graduate school teachers in government schools in Sri Lanka and it was decided the cluster sampling as the appropriate technique to select the study sample as the graduate teachers who are scattered in various schools in different geographical areas of the country. It was determined the sample size to be 382, according to the Krejcie and Morgan's' Table. However, this study has oversampled an additional of 15% samples to the required sampling size and a total of 440 were sampled and the sample was drawn from the teachers who follow postgraduate courses at the Department of Education, Faculty of Arts University of Peradeniya, Sri Lanka. A self-administered questionnaire specifically designed for the study was used as the main data collection tool for the study. Data collection was carried out during the early September 2017 and the collected data were using SPSS software package (version 21.0).

## 6. Data analysis, Findings and Discussions

In order to answer the research questions the researcher used some standard tools such as descriptive statistics (percentages, frequencies, means and standard deviations) and inferential statistics (chi-square test). A chi-square test for independence is applied when it has two categorical variables from a single population and it is used to determine whether there is a significant association between the two variables. The study used Pearson's chi-square test to examine whether there any relationships between four selected variables and information needs.

This approach was selected because variables under study were categorical, and the expected frequency count was at least 5 in each cell of the contingency table.

**6.1 Demographic characteristics of the respondents**

The questionnaires were distributed among 440 teachers and 318 returned and used in the data analysis and this gives a response rate of 72.27%. As it can be gleaned from the table 1, the majority of the sample (89 %,) was female and male comprised only 11%. It is important to note that the teaching profession is a female -dominated profession in Sri Lanka.

With regard the  age of the respondents 57.5% of respondents were 31-40 years of age, with the remainder being 20-30 (20%,) or 41-50 (19.5%,) . Only 8 respondents (2.5%) were more than 50 years of age. It is further evident from Table 1, more than half of the respondents (52%) reported having been teaching profession for 1-5 years. Teachers who had been in the profession for 6-10 years made up 23.6% of the sample, followed by those who had been in the profession for more than ten years.( 23.9%). Only 2 respondents reported that they have working in the profession less than 1 year.

**Table 1: Demographic and professional characteristics of the respondents**

| 1 | **Gender** | **Frequency** | **Percentage** |
|---|---|---|---|
| | Male | 39 | 12.3 |
| | Female | 279 | 87.7 |
| | Total | 318 | 100 |
| 2 | **Age** | **Frequency** | **Percentage** |
| | 20-30 years | 65 | 20.4 |
| | 31-40 years | 183 | 57.5 |
| | 41-50 years | 62 | 19.5 |
| | More than 50 | 8 | 2.5 |
| | Total | 318 | 100 |
| 3 | **Work experience** | **Frequency** | **Percentage** |
| | Less than 1 year | 2 | 0.6 |
| | 1-5 years | 165 | 51.9 |
| | 6-10 years | 75 | 23.6 |
| | More than 10 | 76 | 23.9 |
| | Total | 318 | 100.0 |
| 4 | **Location of school** | **Frequency** | **Percentage** |
| | Central city | 75 | 23.6 |
| | Suburb | 125 | 39.3 |

| | Rural | 110 | 34.6 |
|---|---|---|---|
| | No response | 8 | 2.5 |
| | Total | 318 | 100 |

With regard to the area of school located, most of the respondents, 125 (39%) indicated that their schools were situated in a suburb area followed by 35% in rural area and 24% in a central city. The schools where the respondents teach were located thus fairly representative of town area as well as rural areas.

**6.2 Types of Information Needs of School Teachers**

The first key research question of the study is: What are the information needs of school teachers in Sri Lanka? In order to answer that key question, three sub questions were formed to obtain information on type of professional information do they seek, level of satisfaction towards information needs and purpose of information needs.

The first sub question of the first key question of the study is: What type of professional information do teachers seek? To address this question, the respondents were asked to indicate their use against the list of professional information given in the questionnaire. The diversity of the teachers' information needs is depicted in Table 2 below.

**Table 2: Descriptive Statistics of Teachers' Information Needs**

| | **Information need** | **Frequency** | **Percentage** |
|---|---|---|---|
| 1 | Information related to a particular subject that teaching | 307 | 96.5 |
| 2 | Information related to the curriculum | 307 | 96.5 |
| 3 | Information related to classroom management | 301 | 94.7 |
| 4 | Information related to teaching resources | 296 | 93.1 |

| 5 | Information related to lesson planning | 293 | 92.1 |
|---|---|---|---|
| 6 | Information related to professional development | 286 | 89.9 |
| 7 | Information related to assessment or evaluation | 280 | 88.1 |
| 8 | Information related to pedagogy | 276 | 86.8 |
| 9 | Information related to student learning | 274 | 86.2 |
| 10 | Information on new trends in education | 213 | 67.0 |
| N= 318 | | | |

It is evident from the table 2 that the majority (96.5%) of the respondents (307 out of 318) needed information related to a particular subject that they taught and information related to the school curriculum. Nearly ninety five percent of the respondents (301 out of 318) showed that they needed information related to classroom management while 93% needed information related to teaching resources and 92% needed information on lesson planning.

The results further revealed that 90% of the respondents require information related to professional development (e.g., information on seminars and workshops) and 88% needed information related on students' assessment or evaluation. The next most frequent motive for information seeking is obtained information on pedagogy or teaching methods and student learning with 86% respondents while 67% seek information being updated on new trends in education. These results give an insight that teachers' information needs are varying and majority of them seek information that related to their teaching purposes.

The data analysis of the questionnaire revealed that the information related to particular subject that they taught in schools was found to be the most felt information need among the school teachers, followed by school curriculum, classroom management and teaching resources, respectively. This finding is in line with Bitso and Fouri (2012) who found that geography teachers need information related on geography content, syllabus information and classroom

management information. Similarly, Shulman (1987) found that the teachers mostly needed information about the subject matter to be taught and Snyman and Heyns (2004) identified curricular, supportive study materials and classroom activities as information needs of teachers.

### 6.3 Satisfaction of Information Needs

The second sub question of the first key question is: What extent that teachers' information needs are satisfied? It was also necessary to establish whether the teachers' information needs were satisfied by the information they found and therefore they were asked to mention the extents of satisfaction towards the information needs.

A Five-point Liked scale was used to measure satisfaction level of the respondents towards the information needs given, to which the possible responses ranged from "Totally Dissatisfied" to "Totally Satisfied". The "neutral" option also included which means of neither satisfied nor dissatisfied. The ten items selected as information needs were tested for its reliability, and the Cronbach's alpha value was 0.928 for the all information needs. The results of calculated Likert scores for the information needs are listed in descending order in Table 3.

**Table 3: Degree of Satisfaction of Information Needs**

| | Information need | TDS | DS | NUT | SA | TSA | NO | MS* | SD* |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Information on a particular subject | 7 (2%) | 24 (8%) | 82 (26%) | 150 (47%) | 42 (13%) | 305 | 3.64 | .896 |
| 2 | Information on classroom mgt. | 8(2.5%0 | 30(9%) | 106(33%) | 134(42%) | 24(8%) | 302 | 3.45 | .876 |
| 3 | Information on lesson planning | 11(3.5%) | 24(7.5%) | 109(34%) | 142(45%) | 17(5%) | 303 | 3.43 | .858 |
| 4 | Information on curriculum | 5(1.6%) | 43(13.5%) | 99(31%) | 133(42%) | 22(7%) | 302 | 3.41 | .880 |
| 5 | Information on student learning | 5(1.6%) | 42(13%) | 106(33%) | 129(41%) | 20(6%) | 302 | 3.39 | .866 |
| 6 | Information on | 5(1.6% | 38(12% | 120(38 | 119(37 | 19(6% | 301 | 3.36 | .844 |

| # | | TDS | DS | NUT | SA | TSA | NO | MS | SD |
|---|---|---|---|---|---|---|---|---|---|
| | student evaluation | ) | ) | %) | %) | ) | | | |
| 7 | Information on teaching resources | 15(5%) | 75(24%) | 94(30%) | 100(31%) | 19(6%) | 303 | 3.11 | 1.009 |
| 8 | Information on pedagogy | 11(3.5%) | 55(17%) | 144(45%) | 80(25%) | 13(4%) | 303 | 3.10 | .869 |
| 9 | Information on professional development | 12(4%) | 77(24%) | 119(37%) | 79(25%) | 16(5%) | 303 | 3.03 | .941 |
| 10 | Information on new trends | 20(6%) | 82(26%) | 110(35%) | 76(24%) | 15(5%) | 303 | 2.95 | .992 |
| Scale : 1 for TDS=Totally Dissatisfied, 2 for DS=Dissatisfied, 3 for Neutral= NUT, 4 for SA=Satisfied and 5 for TSA =Totally Satisfied *NO= Total Responses; MS*= Mean Score : SD*= Standard Deviation | | | | | | | | | |

The Table 3 depicts that 60% of the teachers (N=192) mentioned that the information needs on particular subject that they taught in schools are either satisfied or strongly satisfied with 3. 64 mean score while 50% of them felt the information on classroom management and information on lesson planning are either satisfied or strongly satisfied with 3. 45 and 3.43 mean score respectively. The results further show that information needs related to the curriculum, student learning and student assessment are somewhat satisfied with high mean scores of 3.41, 3.39 and 3.36 respectively.

Furthermore, the results established that the needs of the information related to teaching resources (Mean 3.11), information related to teaching methods (Mean 3.10) and information related to professional development are satisfied with having more than 3.00 mean score which give an insight that these information needs are satisfied in some extent. In addition, the needs towards information on new trends in education were satisfied in some extent with having mean score of 2.95. The overall results gave an insight that most of the school teachers' information needs are satisfied in some extent or great extent and very few of them are satisfied in some extent.

The results of the study further indicated that the most of the respondents were satisfied on information needs on particular subject that they taught in schools, classroom management and information on lesson planning. These results are consistent with Bitso and Fouri (2012) who found that the majority of the geography teachers were satisfied with their needs.

## 6.4 Purpose of Information Needs

The third sub question of the first key research question is:  For what purpose(s) do teachers need information? In order to assess the purpose of information needs the respondents were asked to mark the purposes that given in the questionnaire and table 4 present the descriptive statistics of the purposes for which the respondents need information.

**Table 4: Descriptive Statistics on Purpose of Information Needs**

|   | Purpose | Frequency | Percentage |
|---|---------|-----------|------------|
| 1 | Keep up with current trends | 298 | 93.7 |
| 2 | Guiding student's classroom activities | 289 | 90.9 |
| 3 | Develop competence | 288 | 90.6 |
| 4 | Support curriculum development | 278 | 87.4 |
| 5 | General awareness | 275 | 86.5 |
| 6 | Service or job requirement | 265 | 83.3 |
| 7 | Preparing lecture notes | 263 | 82.7 |
| 8 | Teaching preparation | 263 | 82.7 |
| 9 | Preparation for promotion interview | 246 | 77.4 |
| 10 | Workshop and seminar presentations | 243 | 76.4 |
| 11 | Reading purposes only | 242 | 76.1 |
| 12 | Carry out administrative work | 239 | 75.2 |
| 13 | For job interview | 206 | 64.8 |

Source: Primary data

The results showed keeping up with current trends (94%), guiding students' classroom activities (91%), developing competence (91%), supporting curriculum development (87%), for general awareness (87%), as job requirement (83%), preparing lecture notes (83%) and teaching

preparation (83%) as topping the list of purposes for which respondents need information. The results further revealed that more than 75% of them need information for preparing promotion interview (77%), making presentation for workshops or writing seminar papers or reading purposes (76%) and carrying out administration work (75%). Nearly sixty five percent of the respondents needed information for the preparation of job interview.

In terms of purposes of information needs, keeping up with current trends, guiding students' classroom activities and developing competence were found as the main purposes that needed information by the respondents of this study. These results are consistent with the findings of Conroy (Conroy et al., 2000) who found that European teachers seek information for keeping up with current trends because things change a lot in modern times.

## 6.5 Predictors of Information Needs

The second key research question is: Is gender, age, work experience or school location related to the school teachers' information needs? To address this question, chi-square test of independence was performed to determine the relationship between the independent and dependent variables. The independent variables are the background variables, specifically: gender, age, experience and school location while the dependent variable is types of information needs. The set of analysis of chi-square tests for the independence between four variables and information needs are presented in the Table 5.

## 6.5.1 The Relationship between Gender and Types of Information Needs

The first set of analysis of chi-square tests between gender and the information needs are presented in the Second Column of the Table 5. The analysis of chi-square tests were performed to determine if there were any relationship between gender of the respondents in terms of whether or not they felt that each information types was an information need.

**Table 5 Results of Chi-square test between Gender, Age, Experience, Location and Information Needs**

| | Information need | Gender | Age | Experience | Location |
|---|---|---|---|---|---|
| | | Pearson Chi- | Pearson | Pearson | Pearson |

| | | square value | Chi-square value | Chi-square value | Chi-square value |
|---|---|---|---|---|---|
| | | P value | P value | P value | P value |
| 1 | Information on a particular subject taught at school | $X^2(1)$ 5.18 *P=0.023 Significant* | $X^2(3)$ 2.99 *P=0.393 Not significant* | $X^2(2)$ 3.68 *P=0.159 Not significant* | $X^2(2)$ 1.34 *P=0.512 Not significant* |
| 2 | Information on curriculum | $X^2(1)$0.581 *P=0.446 Not significant* | $X^2(3)$ 6.04 *P=0.109 Not significant* | $X^2(2)$ 2.32 *P=0.509 Not significant* | $X^2(2)$ 2.67 *P=0.263 Not significant* |
| 3 | Information on lesson planning | $X^2(1)$2.87 *P=0.090 Not significant* | $X^2(3)$ 36.27 *P=0.099 Not significant* | $X^2(2)$5.78 *P=0.123 Not significant* | $X^2(2)$7.09 *P=0.029 Significant* |
| 4 | Information on teaching resources | $X^2(1)$1.32 *P=0.251 Not significant* | $X^2(3)$1.174 *P=0.759 Not significant* | $X^2(2)$3.12 *P=0.373 Not significant* | $X^2(2)$5.52 *P=0.063 Not significant* |
| 5 | Information on students assessment | $X^2(1)$13.21 *P<0.001 Significant* | $X^2(3)$ 17.06 *P=0.001 Significant* | $X^2(2)$ 9.95 *P=0.007Significant* | $X^2(2)$ 0.219 *P=0.896 Not significant* |
| 6 | Information on student learning | $X^2(1)$3.99 *P=0.046 Not significant* | $X^2(3)$ 11.03 *P=0.012 Significant* | $X^2(2)$ 14.01 *P=0.001 Significant* | $X^2(2)$ 10.87 *P=0.004 Significant* |
| 7 | Information on pedagogy | $X^2(1)$11.31 *P=0.001 Significant* | $X^2(3)$ 8.06 *P=0.045 Significant* | $X^2(2)$ 8.52 *P=0.036 Significant* | $X^2(2)$ 2.07 *P=0.355 Not significant* |
| 8 | Information on classroom management | $X^2(1)$1.14 *P=0.285 Not significant* | $X^2(3)$ 6.12 *P=0.106 Not significant* | $X^2(2)$ 4.24 *P=0.237 Not significant* | $X^2(2)$ 2.75 *P=0.253 Not significant* |
| 9 | Information on professional development | $X^2(1)$2.28 *P=0.131 Not significant* | $X^2(3)$ 28.74 *P<0.001 Significant* | $X^2(2)$ 17.92 *P<0.001 Significant* | $X^2(2)$ 10.42 *P=0.005 Significant* |

| 1 0 | Information on new trends in education | $X^2(1)20.02$ P<0.001 Significant | $X^2(3)$ 55.94 P<0.001 Significant | $X^2(2)$ 47.05 P<0.001 Significant | $X^2(2)$ 15.17 P=0.019 Significant |
|---|---|---|---|---|---|

*significant at 0.05 level

The results indicate that there were association between some information needs and the gender of the respondents. (See Second Column of Table 5) The results indicated that there were no association between gender in terms of information on curriculum ($X^2(1)0.581,P=0.446$), lesson planning ($X^2(1)2.87,P=0.090$), teaching resources ($X^2(1)1.32,P=0.251$), student learning ($X^2(1)$ 3.99, P=0.046), classroom management ($X^2(1)1.14,P=0.285$) and professional development ($X^2(1)2.28$, P=0.131) as information needs. On the other hand, there were association between genders in terms of other information needs and descriptive statistics of these differences according to the gender wise are presented in Table 6.

**Table 6: Differences between Gender and Information Needs**

| s/n | Information Need | Male | | Female | |
|---|---|---|---|---|---|
| | | Yes | No | Yes | No |
| 1 | Particular subject | 37(11.9%) | 2(0.6%) | 270(86.8 %) | 2(0.6%) |
| 2 | Student assessment | 27(9.2%) | 6(2%) | 253(85.8%) | 9 (3.1%) |
| 3 | Pedagogy | 31(10.4%) | 8(2.7%) | 245(82.2%) | 14(4.7%) |
| 4 | New trends | 20(6.8%) | 16(5.4%) | 193(65.2%) | 63(21.3%) |

First, there were association between gender of the respondents in terms of whether they felt information on particular subject that taught at school as information need. ($X^2(1)$ 5.18, P=0.023) Men were much less likely to think information on a particular subject as an information need than female. (86.8%)

Second, the male and female respondents differed in terms of whether they felt information on students assessment as an information need. ($X^2(1)13.21,P<0.001$). Specifically, female respondents (85.8%) were more likely to see information on students assessment or evaluation as an information need than their male counterpart.

Third, there were association between the male and female in terms of whether or not they felt information on pedagogy or teaching methods as an information need. $(X^2(1)11.31, P=0.001)$ Female teachers (82.2%) were most likely to see information on pedagogy or teaching methods as an information need than men.

Lastly, the male and female respondents differed in terms of whether they felt information on new trends in education as an information need . $(X^2(1)20.02, P<0.001)$ Female teachers (65.2%) were most likely to see information on new trends in education as an information need than men. (Table 6)

**6.5.2 The Relationship between Age and Information Needs**

In the next set of analyses, association in information needs between the age of respondents were examined and the test results displayed in the Third Column of the Table 5. The analysis of chi-square tests of independence were performed to determine if there were any association between age category of the respondents in terms of whether or not they felt that each information types was an information need. The results indicate that there were association between some information needs and the age of the respondents. (See 3rd Column of Table 5)

The results indicated that there were no association between age of the respondents in terms of whether they saw information on a particular subject $(X^2(3) 2.99 ,P=0.393)$, curriculum related $(X^2(3) 6.04 ,P=0.109)$, lesson planning $(X^2(3) 36.27,P=0.099)$, teaching resources $(X^2(3)1.174 , P=0.759)$ and classroom management $(X^2(3) 6.12, P=0.106)$ as information needs. There were, however, association between age of the respondents in terms of the other five information needs and Table 7 presents the association of these needs according to age wise.

**Table 7: Differences of Information Needs according to Age**

| s/n | Information need | Age | | | |
|-----|------------------|-------|-------|-------|-----|
|     |                  | 20-30 | 31-40 | 41-50 | <50 |

| 1 | Student assessment | 65(22%) | 162(54.9%) | 48(16.3%) | 5(1.7%) |
|---|---|---|---|---|---|
| 2 | Student learning | 65(22.2%) | 158(53.9%) | 46 (15.7%) | 5(1.7%) |
| 3 | Pedagogy | 65(21.8%) | 156(52.3%) | 50(16.8%) | 5(1.7%) |
| 4 | Professional development | 62(18.2%) | 170(56.5%) | 49(16.3%) | 5(1.7%) |
| 5 | New trends | 54(18.2%) | 134(45.3%) | 23(7.8%) | 2(0.7%) |

First, there were association between age of the respondents in terms of whether they felt information on student assessment or evaluation as information need.( $X^2(3)$ 17.06,P=0.001 ) Those who belong to 31-40 year aged category (54.9%) much likely to see information on student assessment as an information need than those who were in other aged categories. (Table 7)

Second , there were association between age of the respondents in terms of whether they felt information on student learning as information need.( $X^2$ (3) 11.03,P=0.012) Those who belong to 31-40 year aged category (53.9%) much likely to see information on student learning as an information need than those who were in other aged categories. (Table 7)

Third, there were association between age of the respondents in terms of whether they felt information on pedagogy or teaching methods as an information need.( $X^2(3)$ 8.06, P=0.045 ) More than half of the respondents ( 52.3%) in 31-40 year aged category much likely see information on pedagogy as an information need than those who were in other aged categories. (Table 7)

Fourth, there were associations between ages of the respondents in terms of whether they felt information on professional development as an information need. (X2(3) 28.74, P<0.001) Those who belong to 31-40 year aged category (56.5%) much likely to see information on professional development as an information need than those who were in other aged categories. (Table 7)

Lastly, there were associations between age of the respondents in terms of whether they felt information on new trend in education as an information need.( $X^2(3)$ 55.94 ,P<0.001 ) More than fouty five percent ( 45.3%) of the respondents who belongs to 31-40 aged group much likely to see information new trends as an information need than those who were in other aged categories. (Table 7)

### 6.5.3 The Relationship between Experience and Information Needs

The next set of analysis of chi-square tests between work experience and the information needs conducted and results are presented in the Fourth Column of the Table 5. The analysis of chi-square tests were performed to determine if there were any association between work experience of the respondents in terms of whether or not they felt that each information types was an information need. The results indicate that there were association between some information needs and the work experience of the respondents. (See 4th Column of Table 5)

The results indicated that there were no association between experience in terms of information on a particular subject ($X^2(2)$ 3.68 ,P=0.159), curriculum related ($X^2(2)$ 2.32,P=0.509), lesson planning ($X^2(2)$ 5.78,P=0.123), teaching resources ($X^2(2)$3.12,P=0.373) and classroom management ($X^2(2)$ 4.24 ,P=0.237) as information needs. There were, however, association between work experience in terms of the other five information needs and descriptive statistics of them are presented in Table 8.

**Table 8: Differences of Information Needs according to Experience**

| s/n | Information need | Work Experience | | | |
|---|---|---|---|---|---|
| | | >1 year | 1-5 | 6-10 | < 10 years |
| 1 | Student assessment | - | 153(51.9%) | 65 (22%) | 62 (21%) |
| 2 | Student learning | - | 150(51.2%) | 62 (21.2%) | 62 (21.2%) |
| 3 | Pedagogy | 2(0.7%) | 151(50.7%) | 65 (21.8%) | 58 (19.5%) |
| 4 | Professional development | - | 154 (51.2%) | 68 (22.6%) | 64 (21.3%) |
| 5 | New trends | - | 129 (43.6%) | 57 (19.3%) | 27 (9.1%) |

First, there were association between experience of the respondents in terms of whether they felt information on student assessment or evaluation as information need.( $X^2(2)$ 9.95,P=0.007) Those who had 1-5 year experience in teaching profession (51.9%) much likely to see information on student assessment as an information need than those who had more than 6 years and less than one year experience. (Table 8)

Second , there were association between experience of the respondents in terms of whether they saw information on student learning as an information need.( $X^2$(2) 14.01,P=0.001) Those who had 1-5 year experience (51.2%) much likely to see information on student learning as an information need than those who had more than 6 years and less than one year experience . (Table 8)

Third, there were association between work experience of the respondents in terms of whether they felt information on pedagogy or teaching methods as an information need.( $X^2$(2) 8.52 ,P=0.036 ) Nearly half of the respondents ( 50.7%) who had 1-5 year experience as teachers much likely see information on pedagogy as an information need than those who had more than 6 years and less than one year experience. (Table 8)

Fourth, there were associations between work experiences in terms of whether they felt information on professional development as an information need. ($X^2$(2) 17.92, P<0.001) Just more than half of the respondents who had only 1-5 year work experience (51.2%) much likely to see information on professional development as an information need than those who had more than 6 years and less than one year experience. (Table 8)

Lastly, there were association between work experiences in terms of whether they seek information on new trends in education as an information need.( $X^2$(2) 47.05, P<0.001) Less than half of the respondents who had 1-5 year experience as teachers ( 43.6%) much likely to see information new trends as an information need than who had more than 6 years and less than one year experience. (Table 8)

### 6.5.4 The relationship between location of school and information needs

A series of chi-square tests performed between location of school and the information needs and results are presented in the Fifth Column of the Table 5. The analysis of chi-square tests were performed to determine if there were any association between location of school that the respondents work in terms of whether or not they felt that each information types was an information need. The results indicate that there were association between some information needs and the school location where the respondents work. (See 5th Column of Table 5)

Results indicated that there were no association between school location in terms of information on a particular subject ($X^2$(2)1.34,P=0.512), curriculum related ($X^2$(2) 2.67, P=0.263), teaching resources ($X^2$(2)5.52,P=0.063), student assessment ($X^2$(2) 0.219, P=0.896) , pedagogy ($X^2$(2)2.07, P=0.355) and classroom management ($X^2$(2) 2.75, P=0.253) as information needs. There were, however, association between location in terms of the other four information needs and Table 9 shows the differences of information needs according to the school location wise.

**Table 9: Differences of Information Needs according to School Location**

| s/n | Information Need | Location of School | | |
|---|---|---|---|---|
| | | **Central city** | **Suburb** | **Rural** |
| 1 | Lesson planning | 65 (21.8%) | 115 (38.6%) | 108 (36.2%) |
| 2 | Student learning | 64 (22.2%) | 106 (36.8%) | 99 (34.4%) |
| 3 | Professional development | 67 (22.6%) | 113 (38.2%) | 101 (34.1%) |
| 4 | New trends | 46 (15.8%) | 93 (32%) | 69 (23.7%) |

First, there were association between respondents' location of school in terms of whether they felt information on lesson planning as an information need.( $X^2$(2)7.09,P=0.029) Those worked in suburb schools (38.6%) much likely to see information on lesson planning as an information need than those who worked in central city or rural area schools. (Table 9)

Second , there were association between location in terms of whether respondents saw information on student learning as an information need.( $X^2$(2) 10.87 ,P=0.004) More than one third of the respondents who worked in suburb schools (36.8%) much likely to see information on student learning as an information need than those who worked in other area. (Table 9)

Third, there were associations between locations of school in terms of whether they felt information on professional development as an information need. ($X^2$(2) 10.42, P=0.005) Less than fouty percent (38.2%) of the respondents who worked in suburb schools much likely to see

information on professional development as an information need than those who worked in central city or rural area schools. (Table 9)

Lastly, there were association between location of school in terms of whether they seek information on new trends in education as an information need.( $X^2(2)$ 15.17,P=0.019) Less than one third of respondents (32%) who worked in suburb schools much likely to see information new trends as an information need than those who worked in other area schools. (Table 9)

The quantitative analysis (through chi- square test) established that there were no strong evidence of relationship between four variables such as age, gender, experience and location with teachers' information needs. Results of the present study confirmed the findings of a previous study of Bitso and Fouri (2012) who found that there is no significant relationship between teachers' information needs and the variables. They found the teachers' information needs is not being triggered by their age, educational qualification or schools' district which is consistent with the findings of the current study.

**7. Conclusion**
As revealed in the findings, information needs of school teachers are varied and the results indicated that information related to particular subject that teachers were taught in schools was found to be the most felt information need among the school teachers in Sri Lanka. Teachers' second most frequently mentioned need was information on school curriculum while the third most frequently mentioned need was information on classroom management and fifth most frequently mentioned need was information on teaching resources. A few other needs not listed here were considered insignificant.

The results further indicated that most of the respondents were satisfied on information needs on particular subject that they taught in schools, classroom management and information on lesson planning. In terms of purposes of information needs, keeping up with current trends, guiding students' classroom activities and developing competence were found as the main purposes that needed information by the respondents.

A Chi Square test for independence was used to examine whether four selected factors such as gender, age, experience and location are associated with teachers' professional information needs. The Chi Square results indicated that there were no strong evidence of relationship between the four factors  and teachers' information needs.

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