# *Development of a Grade Level Assessment Tool in Social sciences (GLAT-SS) of Karnataka State Education Board*

**Principal Investigator**
Dr. Palnaty Vijetha
Reader in Special Education


**Co-Investigator**
Dr. Alok Kumar Upadhyay
Associate Professor in Special Education


**Research Officer**
Mr. Anil Abbur R

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**The Department of Special Education**
All India Institute of Speech and Hearing
Manasagangothri
Mysore

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# Abstract

The present study aimed to develop Grade Level Assessment Tool-Social Sciences (GLAT-SS) for Grade VI of Karnataka State Education board. A total of 615 students participated in the study, 310 students were from Kannada medium and 305 students were from English medium schools. Convenient sampling technique was used to select the students across six districts of Karnataka state (including pilot study). Survey research design was employed. The study was conducted in two major stages: *Compilation of GLAT-SS test items and field testing of GLAT-S*S. Kruskal-Wallis one way ANOVA test and Mann-Whitney-U test were used for analysis of data. The results revealed that there was significant influence of different districts on student's performance on GLAT-SS and there was no significant influence of medium of instruction on student's performance on GLAT-SS. Significant difference was also found in the performance of English medium and Kannada medium students across different districts of Karnataka state. The range of scores for GLAT-SS in three levels, such as below average, average and above average was also determined. The study highlights that GLAT-SS can be used to identify the present level of performance of students for Grade VI in Social Sciences subject and accordingly plan the remedial teaching sessions. Furthermore, the GLAT-SS produced under this project is compiled as a manual which can be easily used by the teachers in identifying challenges faced by students in social science subject in Grade VI in Karnataka. This is suitable for both English and Kannada medium students in Grade VI.

*Keywords: Grade and Assessment tool*

# CHAPTER 1

# INTRODUCTION

Assessment is an important part of school education programme. Teaching learning process is not completed without assessment. For any kind of training programme, assessment is necessary as it determines the progress achieved and what is yet to be achieved. Many countries have identified the importance of formative assessment in reaching the target in education. For example in England, a programme in formative assessment was started in the year 2000 at preschool and primary school level; in Scotland, formative assessment practices were used by teachers in teaching process; in 1999, New Zealand also implemented its national assessment strategy on formative assessment; in Canada also formative assessment is viewed as very important strategy (Ozan & Kincal, 2018). In other countries such as Spain, Germany, Sweden and Finland also highlighted the importance of formative assessment and necessity of using different assessment methods (Klinger, Volante, & DeLuca, 2012). Furthermore, it also helps the teachers to plan and modify the teaching learning process for the class as a whole and also for few students specifically. The results of formative assessment act as an indicator to teachers to plan their lessons as they inform teachers - how much the students have learnt their lessons (Wuest & Fisette, 2012). It aids to diagnose the learning problems of students in the class room. It helps teachers to involve the parents by reporting them about the child's learning. While carrying out formative assessment, it is important to ask number of questions to obtain the information regarding whether the students had learnt the lesson or not and the questions must be active and effective for understanding (Mcmillan, 2014). The benefits of formative assessment are achieved when the feedback is provided to students about their learning and to teachers about their teaching (Andrade, Lui, Palma & Hefferen, 2015). It also aids teachers and parents to identify the learning challenges in a particular subject or an activity at the earliest. This in turn

would help teachers and parents to handle the learning challenges at an early stage before it becomes a serious issue. (Darling-Hammond & Snyder, 2000) stated that teaching needs to become more skillful under different circumstances to evaluate teaching situation. (Chen, Whittinghill & Kodlowec, 2006) states that authentic tasks give more opportunity to students to improve their understanding of the lessons learned.  A survey was conducted on impact of formative assessment in the process of learning. The results revealed formative assessment helps teachers to identify the gaps in student's knowledge in advance and as a part of treatment the teaching learning method can be changed and the participant students also highlighted the importance of formative assessment upon the summative assessment (Tridane, et al., 2015).

According to Right to Education Act 2009 in India, free and compulsory education has to be provided for students from 6 to 14 years of age, receiving grade appropriate education is more important. Too much of gap in the learning levels of the child, might lead to withdrawal of child from the school. Therefore, appropriate assessment is a must to identify the learning challenges at an early stage so as to work on the remediation process for the child. Learning of students is reflected and supported by formative assessment hence researchers are interested in it (William 2011). Twenty five research studies and 1743 publications were selected and analysed, results revealed that only three studies were conducted in a systematic manner of formative assessment as compared to other studies (Heitink, et al., 2016). Another study was conducted by (Buldur, 2014) where in the effects of formative assessment were examined with performance based technique on teacher and students. The results revealed performance based techniques were partially effective on orientation of students' goals. (Bulunuz, Bulunuz, & Peker, 2014) examined the effect of formative assessment in physics concepts, 197 Grade VIII students participated in the study and the results showed students understanding level about physics

concepts increased significantly . (Ozan & Kincal, 2018) concluded that formative assessment significantly increases the academic achievement of students. (Mufeed, 2017) conducted a study on school based assessment in elementary schools. It emphasizes that assessment should become an integral part of teaching learning process and also assessment for learning should be central to classroom practices.

Thus, it is clear from the above literature, that formative assessment is an important aspect in the education process for all the stakeholders.

## 1.1. Importance of Social Sciences subject in school

Social Sciences are a unique subject that aims to promote equality, democracy, and liberty among students to become responsible citizens of the country. It encompasses diverse concerns of society and includes wide range of content drawn from the disciplines of *history, geography, political science, economics and sociology*.   (Clark, 1973) The word *History* comes from Greek word 'historia' which meant inquiry and knowing. Indian concept of history is denoted by word 'Ithihasa' which means *'as it happened'*. Events and their occurrences are predominant here. The Persian concept is denoted by word 'Tawarikh' which is plural of tarikh meaning the date. Here chronology of events takes prominence. It actually denotes everything that ever happened on the surface of this Earth, whether it was political, economical, social or cultural. It all comes under the purview of History. *Geography* is the scientific study of the Globe. It is the science of the earth's surface, form, and physical features. It is the relationship between man and environment. *Political Science* is mainly concerned with the duties to be performed by the citizens of the country and the rules to be respected in one's own country. *Economics* is the study of the economy. It therefore undertakes studies of the relative exchange of goods and services. The basic focus of economics is on material wealth. Social sciences are

one of the core subjects taught at school in India. The selection and organization of material into a meaningful social science curriculum and enabling students to develop a critical understanding of society is a challenging task. Therefore, it is recommended by The National Curriculum Framework (NCF) 2005, that students' school life and outside school life must be linked while teaching social sciences in order to develop a critical understanding of society and its functions'. Furthermore, the National Focus Group on Teaching of Social sciences (2005) exposed few prevailing perceptions about social sciences subject in general:

- It is considered as a non-utility subject;

- It merely transmits information and is too text centered;

- It is viewed as providing unnecessary details about the past and students specializing in social sciences do not have desirable job options.

But in reality, it is the subject which enables an individual to grow at his personal level, being a member of family; contributing member of society and promoting democratic, patriotic, historical values, culture and heritage in the society where he/she lives. Therefore, studying this subject and gaining knowledge in this domain is a vital aspect for learning.

Denton & Sink (2015) stated that Educational reforms over the last two decades have changed perception of core curricular. Although social sciences has traditionally been part of the core, emphasis on standard based teaching and learning along with elaborate accountability schemes is coming in balanced treatment of subjects. While the research literature indicates teachers are spending less time on social sciences, perception about the subject is more complicated. Some educators accept the value of social sciences knowledge and skill, while others see it as auxiliary subject that supports tests achievement. Result from a case study involving elementary teaching show integration as a preferred method for teaching social

sciences. However, the participants indicated effective integration was not possible due to time constraints, limited training and inadequate curricular resources. Nevertheless, adoptions of common core standard presented opportunities for educators to re-examine the merits of social sciences integration. To teach social sciences, many methods and techniques have been used considering the difference of students so as to make learning effective, (Eggen & Kanchak, 2006). Jigsaw technique when used while teaching leads to many benefits such as promoting friendship, increase the success and self-esteem, enable communication and lead to permanent learning (Madden & Slavin, 1983). Different techniques such as discussion, pretest, summary writing, using click or hand signals for roll numbers, integration of non verbal clues and think pair share are useful techniques to teach (Snyder, 2015). (Fook & Sidhu, 2010) states that authentic tasks allow students to develop intellectual abilities and problem solving tasks develop social skills. Furthermore, teaching of social sciences in an interesting manner will enable students to acquire knowledge and apply the skills in an appropriate manner. (Harun Er, 2017) conducted a study to find out the impact of teaching a lesson in social sciences class VII grade using jigsaw technique Bartin province in Turkey. It included 46 students. Pretest-posttest control group experimental design was used. It was found that instruction through jigsaw technique had a positive impact on academic success. And also statistically significant difference was found in pre and post test results. (Cener, Acun, & Demirhan, 2015) conducted a study with the aim to investigate the impact of teaching social sciences with the help of ICT on people achievement. Quasi experimental research design was used. The subjects of the study were divided into two groups of VI grade pupils of a public primary school in Izmir, Turkey. Each group consisted of 35 pupils. Three research tools were used to collect data i.e., academic achievement test, attitude measurement scale on social sciences education and an attitude

measurement scale on ICT. The results revealed that teaching social sciences using ICT do not have any statistically significant effect on pupils' attitudes towards social sciences lessons. In order to gauge the knowledge acquired by the students, it is very important to assess their knowledge in social sciences. Moreover, unlike other subjects, social sciences are different in each state as students of one particular state study more of their local geographical features, local history, economics and political science.

**1.2 Importance of Assessment in Social Sciences Subject**

Educational Assessment at every grade level and in every subject helps to identify the concepts at which child is finding difficulty to understand and perform. This further helps to work on the educational training needed for students. Grade level assessment will enable parents and educators to know the achievements levels of the students and would inform the next steps in the student's learning. Even though a child is talented if he /she cannot achieve aims of education and be responsible citizens in the country, educating such a child merely on knowledge base would be futile and sometimes dangerous as well. Hence, Social sciences are essential to provide social, cultural, and analytical skills required to adjust to an increasingly interdependent world, and to deal with political and economic realities (NCF, 2005). Therefore, it is significant to understand whether the child has acquired these aims in general and specifically related to society through social sciences subject. (Vasha Hus & Jasmina Matjasic, 2017) conducted a study on evaluation and assessment in social science in year IV at various primary schools in Slovenia. Data was obtained by the web questions on representative samples of social science teachers. The results revealed teachers commonly used summative knowledge evaluation and assessment forms.

In order to identify whether students have acquired age appropriate curricular skills in social sciences, there is a need to develop age appropriate tests. These tools should be appropriate with respect to different grade levels, different state education boards, different subjects studied at school and different age groups. Reviewing the literature disclosed some of the international tests Western and Northern Canadian Protocol for Collaboration in Education (2006) reported "Assessment and valuation of student achievement and growth are essential parts of the teaching and learning process."  (Stiggins, 2008) reported in his study as teachers need to be cognizant of the learner outcomes in programs of study at the grade level they are teaching as well as those both above and below that grade level in order to respond to a wide range of student strengths and areas of need. There are many tests available such as National Achievement Tests, Geography (Form A & B) R.K. Speer & S.Smith; Every pupil test-geography (Grade IV, V, VI & VII), M.E. Bain; Every pupil test-contemporary affairs (Grade 7-12), C.H. Roberts; Social sciences Test, R.K. Seeper; American History Test, R.K.Seeper; Cooperative Social sciences Test - ETS; Wesley Tests in Social & Political Terms E.B. Wesley and Civics Vocabulary Test- S.A. Bayner. Louisiana Department of Education developed Grade-level expectations in Social sciences from K-12. Others include Oregon assessment for knowledge and skills which aims to provide information on individual student achievement on performance standards set by the state board of education and grade group levels and to support instructional programme for improvement; South African National curriculum statement (Curriculum and Assessment policy statement) where they have assessment for each subject separately. United states have grade level tests for each subject and grade.

In India, there are few tests available, details of which are compiled by National Library of Educational and Psychological Tests (NLEPT) of NCERT i.e., Coimbatore Achievement

Test(Social sciences), R.K. Mission; Achievement Test Folder (Social sciences), S.I.B Kerala Coimbatore Standard Test in social sciences, R.M. Vidyalaya, Coimbatore. Additionally, there are grade level assessments available till fifth class i.e.., some tests are available in Tamilnadu in history and civics. Grade Level Assessment Device is also one of the tests available in India to detect learning problems of students from Grade I to IV developed by Dr. Jayanthi Narayan, NIMH in Mathematics,English and Hindi.  However, there are hardly any tests available in recent times to assess student's knowledge in Social science subject in Karnataka for Grade VI.

(Moholik, 2017) conducted a study on quality dimension in evaluating social science. He mentioned in social science subject different types of questions must be used. Such as multiple choice items, matching items, very short items, easy type etc. He also highlighted in social science subject different questions must be prepared which are suitable for all kind of learners. (Joshi & Shetkar, 2017) conducted a comparative study of questions given in VIII grade social science textbook of different publications from the point of view of continuous and comprehensive evaluation (CCE). The results revealed the history book "Our Past –Part I" of VIII grade published by private publication is better than NCERT publication from the point of view of CCE. A study by Kathleen (2016) examined the effects of google classroom on teaching social science for six VII graders with learning disabilities. A single subject design was used to evaluate the learning outcomes. During the intervention period for 9 weeks students had to complete assigned work using google classroom. The results revealed that students increase their vocabulary but limited improvement was seen in content knowledge. (Hendrix, 1999) conducted a study whether using jigsaw technique students academic achievement can be improved in social sciences subject and skill necessary for being a good citizen can also be developed.  (Hilda et.al., 2020) conducted a study to determine the effect of implementation of performance

assessment of the results of social sciences with covariates social attitudes in IV grade in district Jombang. Research design used was archetypal. The post-test only control group with covariates social sciences attitudes was used. The results showed that there is a difference between learning outcomes of students in social sciences subject with respect to conventional performance appraisal and assessment. (Ozan & Kincal, 2018) examined the effects of formative assessment practices on students' academic achievements, attitudes towards lessons and self regulation skills in V grade social sciences class. The data collection instruments included: *Social sciences performance tests, attitude inventories for social sciences classes, self regulatory learning skills scales, Semi structured interview form and observation form*. Experimental procedure was carried out for 28 weeks. Forty five students participated in the study and the results revealed that the experimental group in which formative assessment practices were performed had significantly higher academic achievement levels and better attitude towards the class than the students in the control group. Different studies highlight the experiments carried out in social sciences subject using variety of techniques. However, the studies related to assessing the present level of performance grade wise according to the state curriculum in social sciences subject is hardly available which leads to the need for the present study.

**1.3 Need for the study**

Considering the less availability of assessment tools in social sciences subject in Karnataka for Grade VI, it is essential that the assessment tool be developed to evaluate the knowledge gained in social sciences according to the curriculum prescribed. Following are the rational reasons as to why Grade Level Assessment Tool in Social sciences subject to be developed.

1. On reviewing the various tests, it was observed that there have been hardly any tests in India targeting assessment of students at the Grade VI level in social science subject as per Karnataka State Education Board.

2. The tests developed in other countries, most of them are not suitable for Indian conditions in general and for Karnataka in specific as they are culturally inappropriate especially in terms of subject like social sciences.

3. It is mentioned that the government's policy "No Detention" is promoting students from one grade to next grade without checking whether in reality the child acquires necessary knowledge i.e., in simple words, there is no checkpoint at every stage.

4. It helps in establishing uniformity in assessment in social sciences subject in Karnataka.

5. In order to assess the child in a more comprehensive and multi-dimensional manner and to get the best out of the child, assessment of child's learning should include different types of assessment.

Consequently, such a test would help to examine the grade level performance in students in social sciences subject, so that it would be possible to ascertain what is the child's present level of performance in social sciences subject based on range of scores in Karnataka and if required it would be possible to train the child appropriately. Thus, the current study is aimed to develop a test to assess grade level performance in students in social sciences subject.

**1.4 Aim of the study**

To develop Grade Level Assessment Tool in Social Science (GLAT-SS) for Grade VI of Karnataka State Education Board in English and Kannada languages.

**1.5 Specific objectives of the study**

1. To assess the influence of districts on GLAT-SS total scores.

2. To assess the influence of medium of instruction on GLAT-SS total scores.

3. To find out the range of scores for GLAT-SS in three levels such as below average, average and above average.

4. To assess the association of districts and range of scores of GLAT-SS total scores.

5. To examine the association of medium of instruction and range of scores.

6. To assess pair wise significant difference between districts on GLAT-SS total scores

7. To assess pair wise significant difference between districts for English medium students on GLAT-SS total scores.

8. To assess pair wise significant difference between districts for Kannada medium students on GLAT-SS total scores.

9. To examine the performance of English medium students across five districts of Karnataka.

10. To examine the performance of Kannada medium students across five districts of Karnataka.

11. To examine the performance of Kannada medium and English medium students in each district of Karnataka state.

12. To compile the GLAT-SS as manual for Grade VI.

**1.6 Hypotheses of the study**

1. There is no significant influence of districts on GLAT-SS total scores.

2.  There is no significant influence of medium of instruction on GLAT-SS total scores.

3. There is no significant association of districts and range of scores.

4. There is no association of medium of instruction and the range of scores.

5. There is no significant difference in performance of English medium students across five districts of Karnataka.

6. There is no significant difference among Kannada medium students across five districts of Karnataka.

## 1.7 Operational definitions

1. **Grade:** In the present study, Grade denotes Grade VI students of English and Kannada medium in Karnataka state.

2. **Assessment tool:** In the present study, Assessment tool denotes a test developed based on the text book of social sciences for Grade VI subject in Karnataka both in English and Kannada.

## METHOD

<mark>The present study was aimed to develop a tool for assessment in social science subject for Grade VI, i.e., Grade Level Assessment Tool-Social Sciences (GLAT-SS) in Karnataka.</mark>

### 3.1 Research Design

To investigate the objectives and to test the hypotheses of the present study, survey Research Design was used.

### 3.2 Participants

A total of 615 typically developing students participated in the study. For the pilot study, 204 typically developing students participated, among them 84 students *(38 English and 46 Kannada)* were from Grade VII and 40 students were from each Grade VIII, IX and X respectively i.e., a total of 120 students *(60 English and 60 Kannada)* participated as can be seen in figure 3.1.
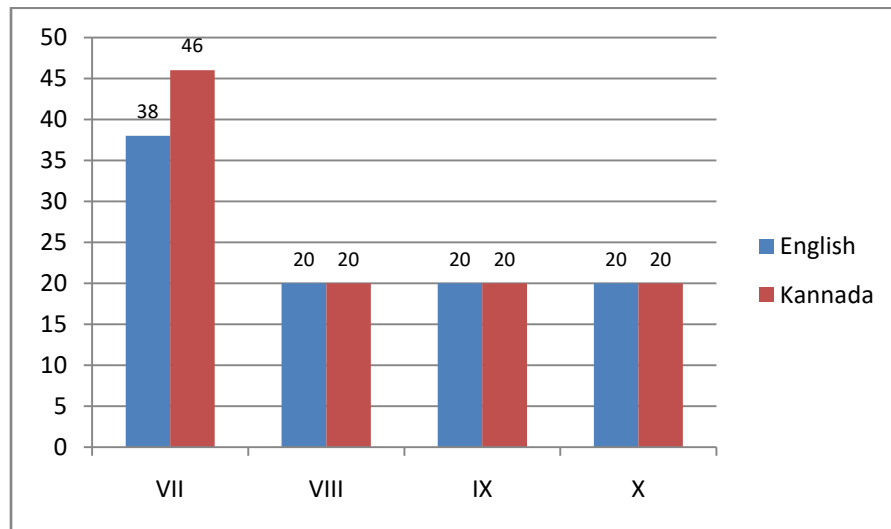


*Figure 3.1* Participants for pilot study from Mysore district.

And 411 typically developing students studying in Grade VII from five districts of Karnataka participated in the final data collection, among them 95 students *(42 English and 53 Kannada)* were from Chamarajanagar district; 98 students *(47 English and 51 Kannada)* were from Bellary district; 98 students *(50 English and 48 Kannada)* were from Chithradurga district; 72 students *(43 English and 29 Kannada)* were from Davanagere district and 48 students *(25 English and 23 Kannada)* were from Dharwad district participated as can be seen in figure 3.2.
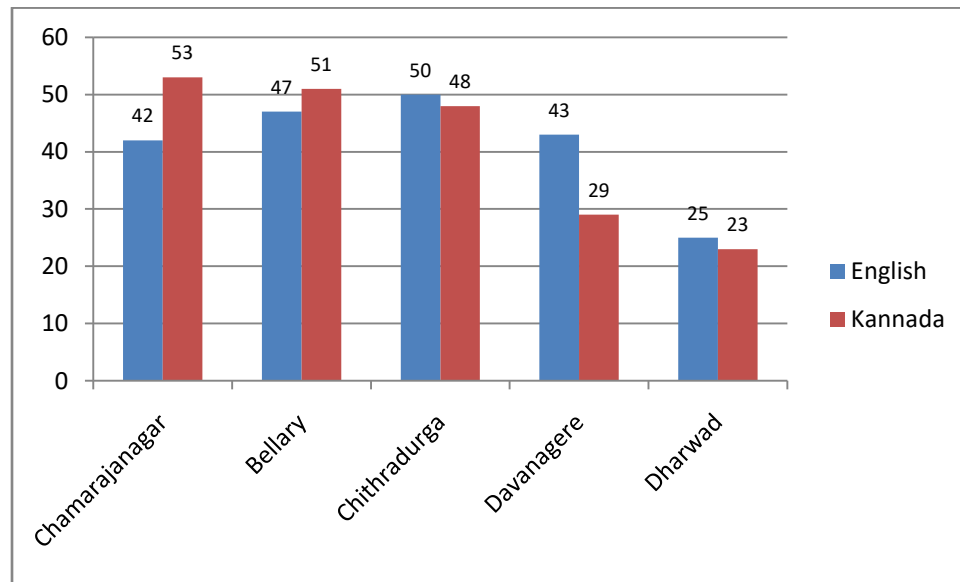


*Figure 3.2* Participants for final data collection across five districts of Karnataka.

All the participants met the following inclusion criteria:

1. Students studying in Karnataka State Education Board.

2. Typically developing students studying in regular schools.

3. Studying in English and Kannada medium.

4. Studying in grade VIII, IX and X.

5. Studying in Grade VII.

6. Students in Grade VII must have scored 50% in Grade VI Annual Exam in Social Science subject (Previous academic year) as per the information given by school authority.

Furthermore, they also met the exclusion criteria i.e., no reported impairments and disabilities. This is as per the information collected from school authorities.

## 3.3 Sampling technique

In this study, convenient sampling technique was used.

## 3.4 Testing Environment

For data collection purpose, GLAT-SS was administered on students in Grade VII in a quiet classroom in their respective schools away from distractions across five districts of Karnataka State.

## 3.6  Procedure of the study

The study was conducted in two stages. The first stage included the *Compilation of Grade level assessment tool in Social science (GLAT-SS) for Grade VI* and  Second stage included *Field testing of GLAT-SS on typically developing students in English and Kannada medium schools* across five districts of Karnataka and final compilation of GLAT-SS as can be seen in Figure 3.3. As a part of ethical procedure, permission was sought from Principals of schools to carry out the study (**Annexure 2**). After getting the consent from the respective Principals, the data was collected for the study.  Furthermore, the study also included developing range of scores for GLAT-SS.
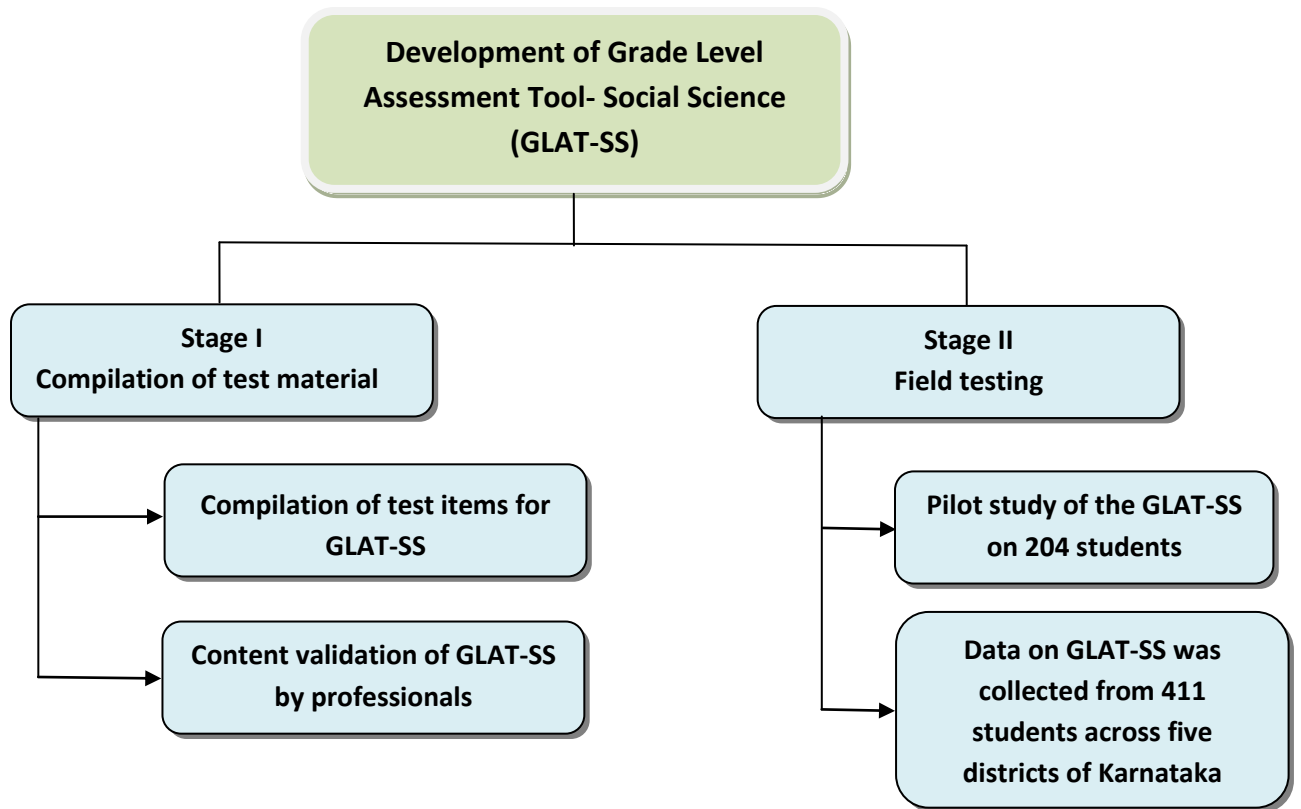
*Figure 3.3* Framework of steps in development on Grade level assessment tool-social sciences (GLAT-SS)

The first stage included following two steps

**Step 1: Compilation of test items**

Social sciences textbook of Grade VI of Karnataka Textbook society were collected. The test items and the lessons given in the textbook were referred. Based on the importance of content of lessons the test items were compiled from different lessons. The items were of different types to assess the knowledge and understanding of social science concepts among students. The first draft of GLAT-SS assessment Tool was developed in English and Kannada with a total of 114 test items.

**Step 2: Content validation by experts**

For the purpose of validating, the preliminary draft copy of GLAT-SS in English and Kannada languages were given to 11 experts for their suggestions. The experts included ten general educators *(5 Kannada and 5 English)* and one special educator **(Annexure 1).** The test items which were marked appropriate by all the experts were included and test items marked inappropriate were deleted. Any other suggestions relevant for the study given were also incorporated. Consequently, among 114 total test items in the first draft, after content validation, 16 test items were deleted and the second draft copy of GLAT-SS with 98 test items was compiled.

**The second stage** included following two steps which are as follows.

**Step 3: Pilot Study**

The second draft copy of GLAT-SS after incorporating the expert's suggestions were field tested on 204 students in Mysore district among them 84 students *(38 English and 46 Kannada)* were from Grade VII and 40 students each from Grade VIII, IX and X respectively i.e., a total of 120 students *(60 English and 60 Kannada)* participated. The justification for including students from different grades is to verify the important content in social sciences subject which students would remember even after passing out different grades. In other words, to verify the actual learning of concepts in social science subject i.e., how much they could remember. The test items for which more than 70% of students responded were retained and other remaining test items were deleted. Based on the scores obtained GLAT-SS was further modified with 79 test items leading to find draft copy of GLAT-SS.

**Step 4:  Development of GLAT-SS**

Final GLAT-SS was administered on 411 (204 Kannada and 207 English Medium) typically developing students from regular school across five districts (Chamarajanagar, Bellary, Chithradurga, Davanagere, Dharwad) of Karnataka in the age range of 10-13 years **(Annexure 3).** Based on scores obtained, range of scores *below average, average, and below average* for GLAT-SS Grade VI were compiled.  The final form of GLAT-SS as a user manual with instructions, answer keys, range of scores is compiled to be used in future **(Annexure 4 A & B) and (Annexure 5).**

**3.7 Analysis of data**

The data collected on GLAT-SS from 411 typically developing students was statistically analyzed. The details are given in the following chapter.

**CHAPTER IV**

**RESULTS & DISCUSSION**

Data collected is statistically analyzed for assessing the influence of district and medium of instruction on total scores and the results are discussed to draw the general conclusions about the sample under study. In order to check whether the data is normally distributed with respect to districts and medium of instruction, the data is subjected to Shapiro Wilks test and the results revealed that the data does not follow the normal distribution (i.e., $p<0.05$) for GLAT-SS total scores with respect to district and medium of instruction. For testing the hypothesis, non-parametric tests: Kruskal-Wallis one way ANOVA test and Mann-Whitney-U test were used to determine whether district and medium of instruction had any significant influence on GLAT-SS total scores. All statistical significance values were compared with 0.05 and 0.01 level of significance. The analysis is done by using SPSS software.

**4.1. Influence of districts on GLAT-SS total scores.**

The first objective of the study is to assess the influence of different districts on GLAT-SS total scores.

The first hypothesis of the study states that there is no significant influence of districts on GLAT-SS total scores is tested and results are presented in following table.

Table 4.1

*Kruskal Wallis one way ANOVA tests between 5 districts in respect of GLAT-SS total scores.*

| District | Mean | SD | Median | n | Mean Rank | $\chi^2(4)$ | p-value |
|----------|------|-----|--------|-----|-----------|-------------|---------|
| Bellary | 63.14 | 6.73 | 63.50 | 98 | 183.79 | 16.861 | 0.002[**] |
| Chamarajanagar | 65.38 | 6.58 | 65.00 | 95 | 220.13 | | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Chithradurga | 66.27 | 5.32 | 67.50 | 98 | 240.46 | | |
| Davanagere | 63.52 | 6.33 | 62.75 | 72 | 185.56 | | |
| Dharwad | 63.56 | 5.73 | 64.00 | 48 | 183.70 | | |
| **Total** | **64.52** | **6.30** | **65.00** | **411** | | | |

**\* Indicates significant at P< 0.05    \*\* Indicates significant at P<0.01**
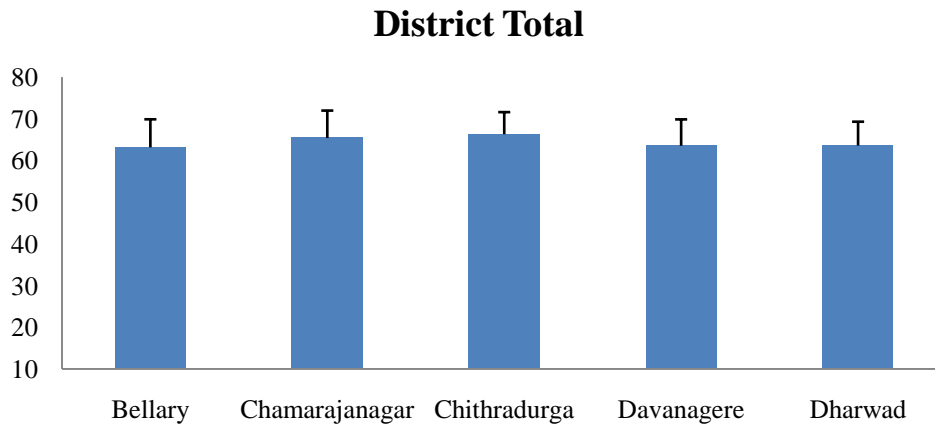
## District Total



*Figure 4.1* Influence of Kruskal Wallis one way ANOVA tests between 5 districts in respect of GLAT-SS total scores.

As can be seen in the table 4.1 and figure 4.1, descriptive and inferential statistics revealed that students from Chithradurga district performed better (Mean=66.27) as compared to students in other districts. Results revealed that there is significant influence of districts on GLAT-SS total scores among students studying in VII grade (i.e., $\chi2\,(4) = 16.861$, p= 0.002) and the null hypothesis is rejected.

### 4.2 Influence of Medium of instruction on GLAT-SS total scores

The second objective of the study is to assess the influence of medium of instruction on GLAT-SS total scores. The second hypothesis states that there is no significant influence of

medium of instruction on GLAT-SS total scores is tested and results are presented in following table.

Table 4.2

*Mann-Whitney U Test between English medium and Kannada medium students on GLAT-SS total scores*

| Medium | Mean | SD | Median | n | Mean Rank | |Z| | p-value |
|---|---|---|---|---|---|---|---|
| English | 64.31 | 6.01 | 65.00 | 207 | 202.56 | | |
| Kannada | 64.73 | 6.59 | 65.00 | 204 | 209.50 | 0.592 | 0.554 |
| Total | 64.52 | 6.30 | 65.00 | 411 | | | |

**\* Indicates significant at P< 0.05     \*\* Indicates significant at P<0.01**
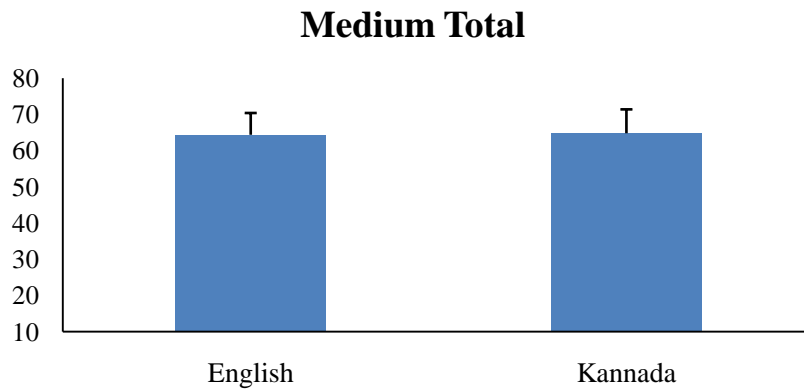


*Figure 4.2* Mann-Whitney U Test between English medium and Kannada medium students on GLAT-SS total scores.

Descriptive and inferential statistics calculated in the above table 4. 2 and figure 4.2 showed that there is no significant influence of medium of instruction on GLAT-SS total scores (i.e., |Z|=0.592, p=0.554) and hence the null hypothesis is accepted.

## 4.3 Calculation of range of scores for GLAT-SS

The third objective of the study is to find out the range of scores for GLAT-SS in three levels such as *below average, average and above average*.

Table 4.3

*Descriptive statistics Mean, Standard Deviation and Median for* GLAT-SS *total scores.*

| Range | | |
|---|---|---|
| **Below average  (58.22)** | **Average (64.52±6.30)** | **Above average  (70)** |
| 0-57 | 58-69 | 70-80 |

**\* Indicates significant at P< 0.05    \*\* Indicates significant at P<0.01**

As seen in table 4.3, based on Mean and Standard deviation of GLAT-SS total scores, the range of scores were divided into three categories namely *below average, average,* and *above average*

## 4.4. Association of districts and range of scores

The fourth objective of the study is to assess the association of districts and range of scores of GLAT-SS total scores. The third hypothesis states that there is no significant association of districts and range of scores.

Table 4.4

*Association between districts and range of scores*

| District | Range of scores | | | Total | $\chi^2$ (8) | p-value |
|---|---|---|---|---|---|---|
| | **0-57** | **58-69** | **70-80** | | | |
| Bellary | 20(20.4%) | 57(58.2%) | 21(21.4%) | 98 | | |
| Chamarajanagar | 13(13.7%) | 54(56.8%) | 28(29.5%) | 95 | 11.092 | 0.197 |
| Chithradurga | 9(9.2%) | 58(59.2%) | 31(31.6%) | 98 | | |

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| | 0-58 | 58-70 | 70-80 | Total | | |
|---|---|---|---|---|---|---|
| Davanagere | 13(18.1%) | 44(61.1%) | 15(20.8%) | 72 | | |
| Dharwad | 8(16.7%) | 33(68.8%) | 7(14.6%) | 48 | | |
| **Total** | **63(15.3%)** | **246(59.9%)** | **102(24.8%)** | **411** | | |

**\* Indicates significant at P< 0.05    \*\* Indicates significant at P<0.01**

As can be seen in Table 4.4, it is observed that most of the students are in the range of 58-69 in all the districts. Also it is seen that in Chithradurga district students (i.e., 31.6%) are more in the range of 70-80 as compared to other districts. However Chi square test for association reveals that there is no significant association between districts and range of scores (i.e., $\chi^2$ (8) =11.092, P=0.197). Hence null hypothesis is accepted.

**4.5 Association of medium of instruction and range of scores**

The fifth objective of the study is to assess the association of medium of instruction and range of scores.

The fourth hypothesis states that there is no association of medium of instruction and the range of scores is tested and the results are presented as follows.

Table 4.5

*Association between Medium of instruction and range of scores*

| Medium | levels | | | Total | $\chi^2$ (2) | p-value |
|---|---|---|---|---|---|---|
| | **0-58** | **58-70** | **70-80** | | | |
| English | 29(14.0%) | 135(65.2%) | 43(20.8%) | 207 | | |
| Kannada | 34(16.7%) | 111(54.4%) | 59(28.9%) | 204 | 5.226 | 0.073 |
| Total | 63(15.3%) | 246(59.9%) | 102(24.8%) | 411 | | |

**\* Indicates significant at P< 0.05    \*\* Indicates significant at P<0.01**

Results revealed that there is no significant association between medium of instruction and range of scores among students studying in VII grade (i.e., $\chi2\,(2) = 5.226$, p= 0.073) and the null hypothesis is accepted.

## 4.6 Pair wise significant difference between districts on GLAT-SS total scores

The sixth objective of the study is to assess pair wise significant difference between districts on GLAT-SS total scores

Table 4.6

*Mann Whitney U test between districts pair wise on* GLAT-SS *total scores*

| District | n | Mean Rank | \|Z\| | p-value |
|---|---|---|---|---|
| Bellary | 98 | 88.74 | 2.088 | 0.037[*] |
| Chamarajanagar | 95 | 105.52 | | |
| Bellary | 98 | 85.32 | 3.255 | 0.001[**] |
| Chithradurga | 98 | 111.68 | | |
| Bellary | 98 | 85.05 | 0.140 | 0.888 |
| Davanagere | 72 | 86.12 | | |
| Bellary | 98 | 73.18 | 0.131 | 0.896 |
| Dharwad | 48 | 74.16 | | |
| Chamarajanagar | 95 | 92.69 | 1.056 | 0.291 |
| Chithradurga | 98 | 101.18 | | |
| Chamarajanagar | 95 | 89.82 | 1.786 | 0.074 |
| Davanagere | 72 | 76.33 | | |
| Chamarajanagar | 95 | 76.10 | 1.666 | 0.096 |
| Dharwad | 48 | 63.89 | | |
| Chithradurga | 98 | 95.24 | 3.013 | 0.003[**] |

| District | n | Mean Rank | |Z| | p-value |
|---|---|---|---|---|
| Davanagere | 72 | 72.24 | | |
| Chithradurga | 98 | 80.87 | 3.010 | 0.003** |
| Dharwad | 48 | 58.46 | | |
| Davanagere | 72 | 60.37 | 0.051* | 0.959 |
| Dharwad | 48 | 60.70 | | |

**\* Indicates significant at P< 0.05      \*\* Indicates significant at P<0.01**

As can be seen from the table 4.6,  when pair wise significant difference between districts on GLAT-SS total scores was calculated, following districts showed significant difference: Bellary and Chamarajanagar (i.e.,$|Z|$=2.088, P=0.037); Bellary and Chithradurga (i.e., $|Z|$=3.255, P=0.001); Davanagere and Chithradurga (i.e., $|Z|$=3.013, P=0.003); and also Chithradurga and Dharwad (i.e., $|Z|$=3.010, P=0.003). However, there is no significant difference found among other districts when analyzed pair wise as seen in table 4.6.

## 4.7 Pair wise significant difference between districts for English medium students on GLAT-SS total scores

The seventh objective of the study is to assess pair wise significant difference between districts for English medium students on GLAT-SS total scores.

Table 4.7

*Mann Whitney U test between districts for English medium students on* GLAT-SS *total scores*

| District | n | Mean Rank | |Z| | p-value |
|---|---|---|---|---|
| Bellary | 47 | 31.77 | 5.117 | 0.000** |
| Chamarajanagar | 42 | 59.81 | | |
| Bellary | 47 | 30.84 | 6.165 | 0.000** |
| Chithradurga | 50 | 66.07 | | |

| | | | | |
|---|---|---|---|---|
| Bellary | 47 | 32.41 | 4.972 | 0.000** |
| Davanagere | 43 | 59.80 | | |
| Bellary | 47 | 33.18 | 1.848 | 0.065 |
| Dharwad | 25 | 42.74 | | |
| Chamarajanagar | 42 | 38.51 | 2.633 | 0.008** |
| Chithradurga | 50 | 53.21 | | |
| Chamarajanagar | 42 | 42.42 | 0.216 | 0.829 |
| Davanagere | 43 | 43.57 | | |
| Chamarajanagar | 42 | 40.88 | 3.753 | 0.000** |
| Dharwad | 25 | 22.44 | | |
| Chithradurga | 50 | 51.45 | 1.716 | 0.086 |
| Davanagere | 43 | 41.83 | | |
| Chithradurga | 50 | 46.80 | 4.950 | 0.000** |
| Dharwad | 25 | 20.40 | | |
| Davanagere | 43 | 40.74 | 3.421 | 0.001** |
| Dharwad | 25 | 23.76 | | |

**\* Indicates significant at P< 0.05     \*\* Indicates significant at P<0.01**

As can be seen from the table 4.7, when pair wise significant difference between districts for English medium students on GLAT-SS total scores was calculated, following districts showed significant difference; Bellary and Chamarajanagar (i.e., $|Z|$=5.177, P=0.000); Bellary and Chithradurga (i.e., $|Z|$=6.165, P=0.000); Bellary and Davanagere (i.e., $|Z|$=4.972, P=0.000); Chamarajanagar and Chithradurga (i.e., $|Z|$=2.633, P=0.008); Chamarajanagar and Dharwad (i.e., $|Z|$=3.753, P=0.000); Chithradurga and Dharwad (i.e., $|Z|$=4.950, P=0.000); and also Dharwad and Davanagere (i.e., $|Z|$=3.421, P=0.001).

However, no significant difference for English medium students between following districts was found: Bellary and Dharwad (i.e., $|Z|$=1.848, P=0.065); Chamarajanagar and Davanagere (i.e., $|Z|$=0.216, P=0.829) and Chithradurga and Davanagere (i.e., $|Z|$=1.746, P=0.086).

**4.8 Pair wise significant difference between districts for Kannada medium students on GLAT-SS total scores.**

The eighth objective of the study is to assess pair wise significant difference between districts for Kannada medium students on GLAT-SS total scores.

Table 4.8

*Mann Whitney U test between districts for Kananda medium students on* GLAT-SS *total scores*

| District | n | Mean Rank | $|Z|$ | p-value |
|---|---|---|---|---|
| Bellary | 51 | 55.39 | 0.960 | 0.337 |
| Chamarajanagar | 53 | 49.72 | | |
| Bellary | 51 | 55.97 | 2.134 | 0.033[*] |
| Chithradurga | 48 | 43.66 | | |
| Bellary | 51 | 49.81 | 4.757 | 0.000[**] |
| Davanagere | 29 | 24.12 | | |
| Bellary | 51 | 38.14 | 0.380 | 0.704 |
| Dharwad | 23 | 36.09 | | |
| Chamarajanagar | 53 | 51.64 | 0.194 | 0.846 |
| Chithradurga | 48 | 50.41 | | |
| Chamarajanagar | 53 | 46.97 | 0.814 | 0.005[**] |
| Davanagere | 29 | 31.50 | | |
| Chamarajanagar | 53 | 38.04 | 0.277 | 0.782 |

| | | | | |
|---|---|---|---|---|
| Dharwad | 23 | 39.57 | | |
| Chithradurga | 48 | 46.77 | 3.926 | 0.000** |
| Davanagere | 29 | 26.14 | | |
| Chithradurga | 48 | 34.96 | 0.615 | 0.539 |
| Dharwad | 23 | 38.17 | | |
| Davanagere | 29 | 20.90 | 2.996 | 0.003** |
| Dharwad | 23 | 33.57 | | |

**\* Indicates significant at P< 0.05     \*\* Indicates significant at P<0.01**

As can be seen from the table 4.8, when pair wise significant difference between districts for Kannada medium students on GLAT-SS total scores was calculated, following districts showed significant difference: Bellary and Chithradurga (i.e., |**Z**|=2.134, P=0.033); Bellary and Davanagere (i.e., |**Z**|=4.757, P=0.000; Chamarajanagar and Davanagere (i.e., |**Z**|=0.814, P=0.005); Davanagere and Chithradurga (i.e., |**Z**|=3.926, P<0.01) and Davanagere and Dharwad (i.e., |**Z**|=2.996, P=0.003).

However, the following districts showed no significant difference: Bellary and Chamarajanagar (i.e., |**Z**|=0.960, P=0.337); Dharwad and Bellary (i.e., |**Z**|=0.380, P=0.704); Chamarajanagar and Chithradurga (i.e., |**Z**|=0.194, P=0.846); Chamarajanagar and Dharwad (i.e., |**Z**|=0.277, P=0.782) and Chithradurga and Dharwad (i.e., |**Z**|=615, P=0.539).

**4.9 The performance of English medium students across five districts of Karnataka**

The ninth objective of the study is to assess the performance of English medium students across five districts of Karnataka.

The fifth hypothesis states that there is no significant difference in performance of English medium students across five districts of Karnataka.

Table 4.9

*Kruskal Wallis one way ANOVA tests (Non-Parametric Test) across five districts of Karnataka among English medium students in respect of* GLAT-SS *total scores.*

| District | Mean | SD | Median | N | Mean Rank | $\chi^2$ (4) | p-value |
|----------|------|------|--------|-----|-----------|--------------|---------|
| Bellary | 59.28 | 5.68 | 60.00 | 47 | 56.20 | | |
| Chamarajanagar | 65.79 | 4.34 | 65.50 | 42 | 117.12 | | |
| Chithradurga | 67.55 | 5.59 | 69.00 | 50 | 141.03 | 62.080 | 0.000** |
| Davanagere | 66.13 | 5.40 | 65.00 | 43 | 119.94 | | |
| Dharwad | 61.70 | 3.62 | 62.00 | 25 | 70.34 | | |
| Total | 64.31 | 6.01 | 65.00 | 207 | 202.56 | | |

**\*Indicates significant at P< 0.05     \*\* Indicates significant at P<0.01**
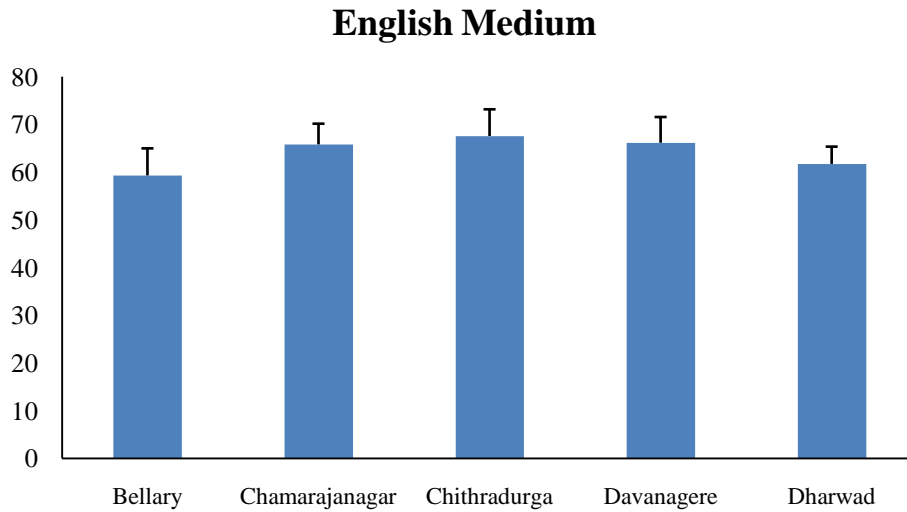


**English Medium**

*Figure 4.3* Performance on GLAT-SS across five districts of Karnataka State among English medium students.

As can be seen in the table 4.9 and Figure 4.3, descriptive and inferential statistics revealed that students from Chithradurga district English medium students performed better (Mean=67.55) as compared to students in other districts. Results gave there is significant influence of districts on GLAT-SS total scores among English medium students studying in VII grade (i.e., $\chi2$ **(4)** = 62.080, p<0.01). Hence, null hypothesis rejected.

## 4.10 The performance of Kannada medium students across five districts of Karnataka

The tenth objective of the study is to assess the performance of Kannada medium students across five districts of Karnataka.

The sixth hypothesis states that there is no significant difference among Kannada medium students across five districts of Karnataka.

Table 4.10

*Kruskal Wallis one way ANOVA tests (Non-Parametric Test) across five districts of Karnataka among Kannada medium students in respect of* GLAT-SS *total scores.*

| District | Mean | SD | Median | N | Mean Rank | $\chi^2$ (4) | p-value |
|---|---|---|---|---|---|---|---|
| Bellary | 66.70 | 5.60 | 68.00 | 51 | 121.31 | | |
| Chamarajanagar | 65.06 | 7.96 | 64.50 | 53 | 105.26 | | |
| Chithradurga | 64.93 | 4.72 | 65.25 | 48 | 102.29 | 22.570 | 0.000[**] |
| Davanagere | 59.66 | 5.64 | 59.00 | 29 | 57.66 | | |
| Dharwad | 65.59 | 6.89 | 66.50 | 23 | 111.39 | | |
| Total | 64.73 | 6.59 | 65.00 | 204 | 209.50 | | |

**\* Indicates significant at P< 0.05    \*\* Indicates significant at P<0.01**
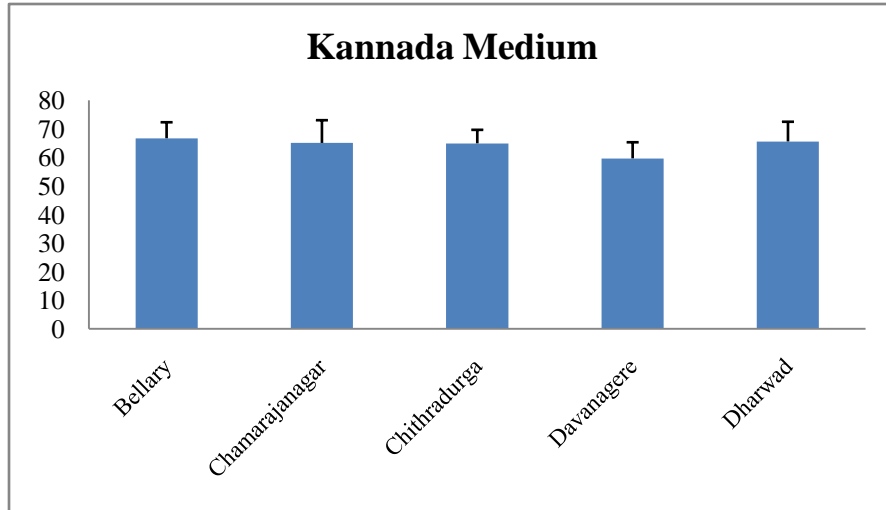
*Figure 4.4* Performances on GLAT-SS across five districts of Karnataka among Kannada

medium students.

As can be seen in the table 4.10 and Figure 4.4, descriptive and inferential statistics revealed that students from Bellary district Kannada medium students performed better (Mean=66.70) as compared to students in other districts. Results gave there is significant influence of districts on GLAT-SS total scores among Kannada medium students studying in VII grade (i.e., $\chi 2$ (**4**) = 22.570, p<0.01). Hence, null hypothesis rejected.

**4.11 The performance of Kannada medium and English medium students in each district of Karnataka state.**

The eleventh objective of the study is to assess the performance of Kannada medium and English medium students in each district of Karnataka state.

Table 4.11

*Mann Whitney U test between districts for Kannada medium and English medium students on GLAT-SS total scores*

| District | Medium | n | Mean | SD | Median | Mean Rank | \|Z\| | p-value |
|----------|--------|---|------|-----|--------|-----------|-------|---------|
| Bellary | English | 47 | 59.28 | 5.68 | 60.00 | 32.60 | 5.655 | 0.000** |
| | Kannada | 51 | 66.70 | 5.60 | 68.00 | 65.08 | | |
| Chamarajanagar | English | 42 | 65.79 | 4.34 | 65.50 | 49.23 | 0.386 | 0.699 |
| | Kannada | 53 | 65.06 | 7.96 | 64.50 | 47.03 | | |
| Chithradurga | English | 50 | 67.55 | 5.59 | 69.00 | 58.23 | 3.107 | 0.002** |
| | Kannada | 48 | 64.93 | 4.72 | 65.25 | 40.41 | | |
| Davanagere | English | 43 | 66.13 | 5.40 | 65.00 | 45.45 | 4.424 | 0.000** |
| | Kannada | 29 | 59.66 | 5.64 | 59.00 | 23.22 | | |
| Dharwad | English | 25 | 61.70 | 3.62 | 62.00 | 20.08 | 2.284 | 0.022* |
| | Kannada | 23 | 65.59 | 6.89 | 66.50 | 29.30 | | |

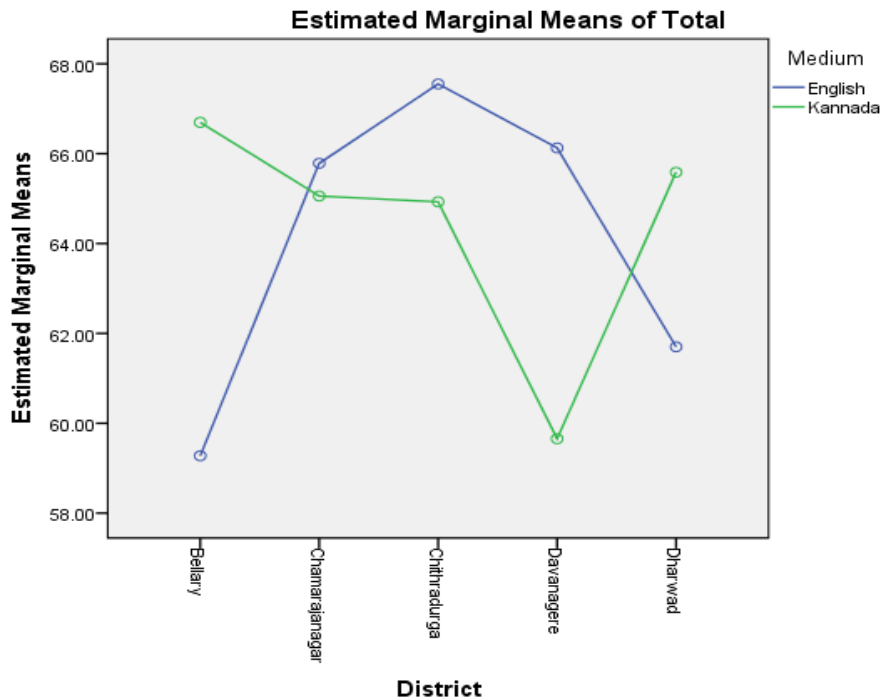**\* Indicates significant at P< 0.05     \*\* Indicates significant at P<0.01**



*Figure 4.5* Mean scores of districts for Kannada medium and English medium students

on GLAT-SS total scores

As can be seen in Table 4.11 and Figure 4.5, there is significant difference found in performance between English medium and Kannada medium students on GLAT-SS total scores, in Bellary district (i.e., $|Z|$=5.655, P<0.01); Chithradurga district (i.e., $|Z|$=3.107, P=0.002 Davanagere district (i.e., $|Z|$=4.424, P<0.01); and also in Dharwad district (i.e., $|Z|$=2.284, P=0.022). However, there is no significant difference found in the performance between English medium and Kannada medium students in Chamarajanagar district (i.e., $|Z|$=0.386, P=0.699).

Table 4.12 Calculation of section wise Mean and Standard Deviation for GLAT-SS total scores

Table 4.12

*Descriptive statistics Mean and Standard Deviation for GLAT-SS total scores*

|  | **Mean** | **SD** | **Median** |
|---|---|---|---|
| S1 | 4.77 | 0.74 | 5.00 |
| S2 | 4.84 | 0.56 | 5.00 |
| S3 | 3.57 | 1.61 | 5.00 |
| S4 | 4.25 | 0.69 | 4.00 |
| S5 | 4.54 | 0.91 | 5.00 |
| S6 | 2.65 | 0.64 | 3.00 |
| S7 | 2.76 | 1.16 | 3.00 |
| S8 | 4.20 | 0.92 | 4.00 |
| S9 | 2.03 | 0.88 | 2.00 |
| S10 | 2.11 | 0.68 | 2.00 |
| S11 | 4.21 | 0.92 | 4.00 |
| S12 | 5.58 | 1.27 | 6.00 |
| S13 | 5.81 | 1.51 | 6.00 |
| S14 | 5.85 | 1.05 | 6.00 |
| S15 | 7.33 | 1.25 | 8.00 |

**\* Indicates significant at P< 0.05    \*\* Indicates significant at P<0.01**
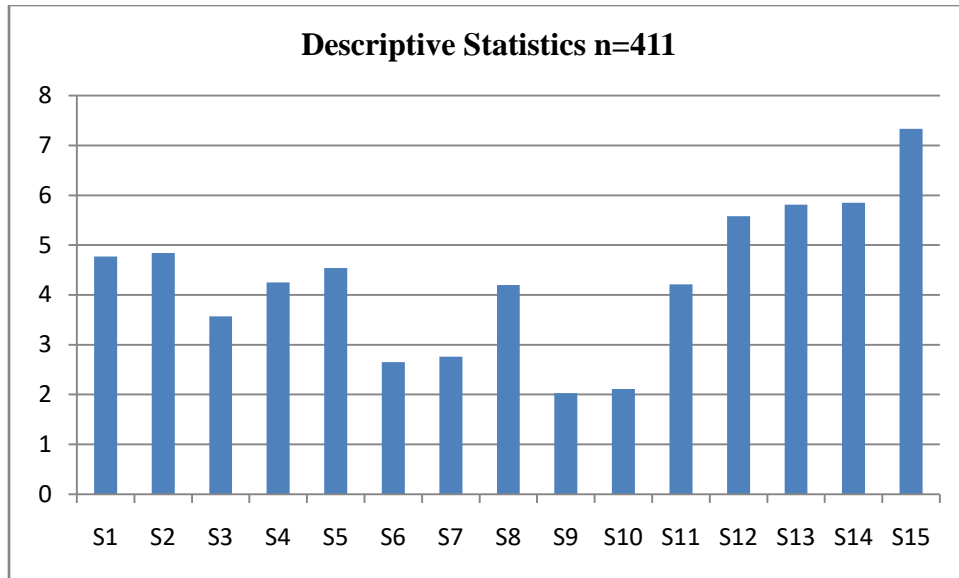
*Figure 4.6* Descriptive statistics Mean and Standard Deviation for GLAT-SS total scores

As can be seen in table 4.12 and figure 4.6, among 15 different sections of GLAT-SS, section 15 that is '*Read the passage and answer the questions'* is the most easiest section for students to answer (Mean=7.33) and the most difficult section for students to answer (Mean=2.03) was section IX that is '*Answer the following questions in one sentence'.*

## Discussion

As can be seen from the above results, the data analysis reveals students from VII grade from Chithradurga district performed better as compared to students in other districts on GLAT-SS. The range of scores were divided into three categories namely *below average, average,* and *above average.* And most of the student's performance were in the range of 58-69 i.e*., average* in all the districts. Also it is seen that the performance of students in Chithradurga district was more in the range of 70-80 i.e., above *average* as compared to other districts. When pair-wise difference was calculated, there was significant difference between student's performance on GLAT-SS scores in Chithradurga district as compared to other districts Bellary, Davanagere, Dharwad. English medium students from Chithradurga district performed better as compared to students in other districts whereas Kannada medium students from Bellary district performed better as compared to students in other districts. There is difference found in performance between English and Kannada medium students on GLAT-SS total scores in Bellary district, Chithradurga district, Davanagere district and also in Dharwad district. From the results, it is very clear that GLAT-SS was able to reveal the performance of students in social science subject in a systematic manner where majority of the students' performance was in the average range. This is in support of the study (Wuest & Fisette, 2012) where formative assessment results acted as an indicator to teachers to plan their lessons. GLAT-SS also takes into account the results of (Mcmillan, 2014) where it was highlighted that many number of questions to be asked for obtaining the information regarding whether the students had learnt or not. Among 15 different sections of GLAT-SS, *section 15* that is '*Read the passage and answer the questions'* is the easiest section for students to answer and the most difficult section for students to answer (Mean=2.03) was section IX that is *'Answer the following questions in one sentence'.*

The Grade Level Assessment tool was developed to assess the educational level of students in social sciences subject as per Karnataka State Education board in Grade VI so that remedial measures can be taken up appropriately. It is especially useful for those students who are scholastically backward in social sciences subject. This tool takes into account content of Grade VI in Karnataka and items were selected from the existing textbook with utmost care to enable representative sample of content for testing and also it is easy for teachers to use the tool. GLAT-SS saves the time of the teachers in constructing teacher made test in social sciences subject in Karnataka and also detailed instructions are provided in the manual for easy administration and scoring.

The GLAT-SS produced under this project is compiled as a user manual to be easily used by the teachers in identifying challenges faced by students in social science subject for Grade VI in Karnataka for both English and Kannada medium students.

# CHAPTER IV

# Summary & Conclusion

## 4.1 Process of the study:

The present study aimed to develop Grade Level Assessment Tool in Social science (GLAT-SS) subject for Grade VI of Karnataka State Education Board using survey design. Fourteen schools across six districts of Karnataka were selected as the field for the study. For identifying participants for the study, convenient sampling technique was used to select. A total of 615 typically developing children from Mysore participated in the study. For the pilot study, 204 typically developing children participated and 411 typically developing children studying in Grade VII from five districts of Karnataka participated in the final data collection, among them 95 students were from Chamarajanagar district; 98 students were from Bellary district; 98 students were from Chithradurga district; 72 students were from Davanagere district and 48 students were from Dharwad district participated. All the participants met the inclusion criteria: students studying in Karnataka State Education Board; Typically developing students studying in regular schools.; studying in English and Kannada medium; studying in grade VIII, IX and X; studying in Grade VII and students in Grade VII must have scored 50% in Grade VI Annual Exam in Social Science subject (Previous academic year) as per the information given by school authority. Furthermore, they also met the exclusion criteria i.e., no reported impairments and disabilities.  This was as per the information collected from school authorities.

The study was conducted in two stages. The first stage included the *Compilation of Grade level assessment tool in Social science (GLAT-SS) for Grade VI where in* Social sciences textbook of Grade VI of Karnataka Textbook society were collected. The test items and the lessons given in the textbook were referred. Based on the importance of content of lessons the

test items were compiled from different lessons. The items were of different types to assess the knowledge and understanding of social science concepts among students. The first draft of GLAT-SS assessment Tool was developed in English and Kannada with a total of 114 test items. For the purpose of validating, the preliminary draft copy of GLAT-SS in English and Kannada languages were given to 11 experts for their suggestions. The experts included ten general educators *(5 Kannada and 5 English)* and one special educator. The test items which were marked appropriate by all the experts were included and test items marked inappropriate were deleted. Any other suggestions relevant for the study given were also incorporated. Consequently, among 114 total test items in the first draft, after content validation, 16 test items were deleted and with 98 test items the second draft copy of GLAT-SS was compiled. And the second stage included *Field testing of GLAT-SS on typically developing children in English and Kannada medium schools* across five districts of Karnataka and final compilation of GLAT-SS. The second draft copy of GLAT-SS after incorporating the expert's suggestions were field tested on 204 students, among them 84 students *(38 English and 46 Kannada)* were from Grade VII and 40 students each from Grade VIII, IX and X respectively i.e., a total of 120 students *(60 English and 60 Kannada)* participated. The test items for which more than 70% of children responded were retained and other remaining test items were deleted. Based on the scores obtained GLAT-SS was further modified with 79 test items leading to find draft copy of GLAT-SS. Final GLAT-SS was administered on 411 (204 Kannada and 207 English Medium) typically developing children from regular school across five districts (Chamarajanagar, Bellary, Chithradurga, Davanagere, Dharwad) of Karnataka in the age range of 10-13 years. The data collected on GLAT-SS from 411 typically developing children was statistically analyzed.

Based on scores obtained, range of scores *below average, average, and below average* for GLAT-SS Grade VI were compiled. The final form of GLAT-SS as a user manual with instructions to administer, Answer keys, grading scores etc was be compiled to be used in future. As a part of ethical procedure, permission was sought from Principals of schools to carry out the study. After getting the consent from the respective Principals, the data was collected for the study. For testing the hypothesis, non-parametric tests: Kruskal-Wallis one way ANOVA test and Mann-Whitney-U test were used to determine whether district and medium of instruction had any significant influence on GLAT-SS total scores. All statistical significance values were compared with 0.05 and 0.01 level of significance.

**4.2 Major findings of the study**

- Students from Chithradurga district performed better as compared to students in other districts on GLAT-SS.

- The range of scores were divided into three categories namely *below average, average,* and *above average.* And most of the student's performance were in the range of 58-69 i.e.*, average* in all the districts.

- The performance of students in Chithradurga district was more in the range of 70-80 i.e., *above average* as compared to other districts.

- When pair-wise difference was calculated, there was significant difference between student's performance on GLAT-SS scores in Chithradurga district as compared to other districts Bellary, Davanagere, Dharwad.

- English medium students from Chithradurga district performed better as compared to students in other districts whereas Kannada medium students from Bellary district performed better as compared to students in other districts.

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- There is difference found in performance between English and Kannada medium students on GLAT-SS total scores in Bellary district, Chithradurga district, Davanagere district and also in Dharwad district. From the results, it is very clear that GLAT-SS test was able to reveal the performance of students in social science subject in a systematic manner where majority of the students' performance was in the average range.

## 4.3 Limitations of the study

In the process of carrying out the present study, the investigators faced certain limitations.

- The present study was conducted only for selected grade VI.
- The participants of the study were limited in number.
- The study was undertaken only in five districts in Karnataka with English and Kannada as medium of instruction.

## 4.4 Recommendations:

The investigators recommend following for further research -

- Developing Grade level Assessment Tools in other curricular areas like mathematics and science
- Developing Grade level Assessment Tools in other medium of instruction.

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