An Intelligent Urdu System To Enhanced Learning Capabilities In Primary School Students

Thesis Submitted to
The Superior College, Lahore

In Partial fulfillment of the
Requirement for the Degree of

MS (Computer science)

By
Humaira Shoukat

Roll No. MSCS-F16-028

Session:2016-2018

Registration No-MSCS-F16-028

Department of Computer Science & Information Technology
Superior University,Lahore,Pakistan

An Intelligent Urdu System To Enhanced Learning Capabilities In Primary School Students

By
Humaira Shoukat
Roll No. MSCS-F16-028
Session:2016-2018
Registration No: MSCS-F16-028

Department of Computer Science & Information Technology
Superior University,Lahore,Pakistan

In partial fulfillment of the
Requirements for the degree of

MS (Computer science)

Approved By:

Dr.M Usman Hashmi	**Dr. Muhammad Aslam**
Program Manager, Research Degrees	Research Supervisor
Dr.Amjad Farooq	**Mr.Muhammad Haris**
External Examiner	Controller Examination

Thesis Submitted to

Department of Computer Science & Information Technology
Superior University,Lahore,Pakistan

DECLARATION TO BE FILLED BY THE STUDENT AT THE TIME OF SUBMISSION OF THESIS TO THE SUPERVISOR AND/OR FOR EXTERNAL EVALUATION

Section 1: Particular of the Student		
1.1	Full Name	Humaira Shoukat
1.2	Father's Name	Shoukat Ali
1.3	Roll. Number	MSCS-F16-028
1.4	Program	MS (Computer Science)

Section 2: Particular of the Thesis		
2.1	Title	An Intelligent Urdu System To Enhanced Learning Capabilities In Primary School Students
2.2	Supervisor's Name	Dr. Muhammad Aslam
2.3	Date of Completion	

Department of Computer Science & Information Technology
Superior University,Lahore,Pakistan

SUPERVISOR'S CERTIFICATEON

THESIS SUBMITTED BY A STUDENT

Section 1: Particulars of the Supervisor		
1.1	Full Name	Dr. Muhammad Aslam
1.2	Address	University Of Engineering & Technology Lahore

Section 2: Particulars of the Student		
2.1	Full Name	Humaira Shoukat
2.2	Father's Name	Shoukat Ali
2.3	Registration Number	MSCS-F16-028
2.4	Program	MS (Computer science)

Section 3: Particulars of the Thesis		
3.1	Title	An Intelligent Urdu System To Enhanced Learning Capabilities In Primary School Students
3.2	Date of Completion	

I certify that:

a. The above named student has completed the cited thesis under my guidance and supervision.
b. I am satisfied with quality of the student's research work, and
c. I consider it worthy of submission for external evaluation.

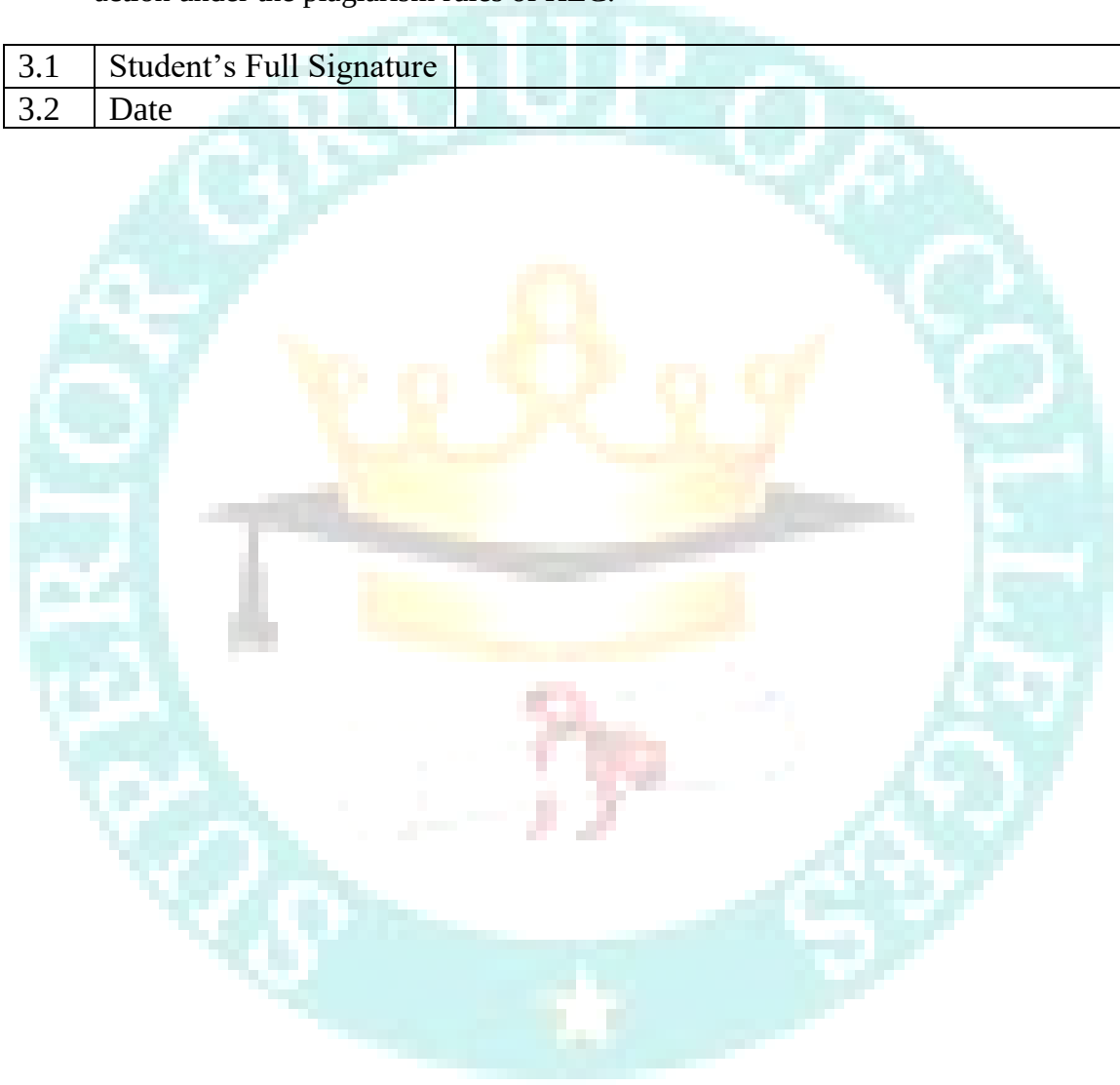
4.1	Supervisor's Full Signature	
4.2	Date	

Declaration of Originality

I Humaira Shoukat hereby solemnly declare that this project:

a) is my original work, except where otherwise acknowledged in the text
b) has not been published earlier and
c) shall not be submitted by me in future for obtaining any degree from this or other university or institution
d) has been incorporated HEC Plagiarism Policy
e) In case of violation of HEC Plagiarism Policy, I shall be liable to punishable action under the plagiarism rules of HEC.

3.1	Student's Full Signature	
3.2	Date	



DEDICATION

First of all, I thankful of "ALLAH", my MSCS is complete. So, this thesis is dedicated to my sweet supervisor, " Dr. Muhammad Aslam ", my Beloved Fiancé "Amjad Ali", my family, lovely Father "Shoukat Ali", my innocent mother and cute brothers sisters who encourage support and help me to complete MSCS.

I thankful all life those members.

ACKNOWLEDGEMENT

In the event that seas transform into ink and all trees get to be pens, and after it's all said done, the commendations of "ALMIGHTY ALLAH", cannot be communicated. He who made the respectful and knows even what is there in it, covered up or clear which is helpful for the man, who gave to the scholarly capacity and astuteness to scan for its privileged insights. Incalculable greetings be upon the HOLY PROPHET MUHAMMAD (peace be upon him), the city of learning, who has ordered upon his " UMMAH" to look for information from support to grave. We are grateful to "ALLAH ALMIGHTY", who favored us with information to finish this anticipate. We ought to get a kick out of the chance to express our most profound thankfulness to each one of the individuals who gave us the likelihood to finish the thesis. An uncommon appreciation I provide for my Teacher, Muhammad Aslam, whose commitment in fortifying proposals and support, helped me to arrange our task particularly in composing research work. I pay thanks lots of love and respect to my loving and the most beloved parents who has always been praying for my success and better career. I pay our heartfelt thanks and obligation to our sisters and siblings, dependably been appealing to "ALLAH", for us.

Their affection has dependably been unending and motivating.

ABSTRACT

Educational techniques are rapidly growing in the field of learning and one of the educational aims is inspiring the learner to design which kind of system can be used to observe right way for learning via Urdu language. By use of modern technology and tools we can develop flexible environments in which student learn collaboratively and share their knowledge and ideas with each other to produce a robust and worthy task. There is number of comparable educational platform are available in many languages except Urdu. In this research, we solve the issue by proposing a rule based Urdu learning system, "Intelligent Student Primary Learning (ISPL)" for different categories of students to enhance the learning capability via android system. This rule based system are designed to allow flexibility for checking the caliber of individual students with their mental assessment and distinguish the level of achievement by targeting learning capability such as taking quiz, reading comprehension, solving puzzle and refreshes their knowledge within time to achieve target for next one. The result of the competition with learning assessment is display after finishing the task under the history for future reference to go to next level. The numbers of results are display and give the feedback to instructor about positive relation between Urdu learning system "ISPL ISPL System" and caliber of students at primary level.

Keywords: ***ISPL System***, ***learning media, android application, Urdu language, primary education, artificial intelligence, students' performance***

LIST OF ABBREVIATION

OS	Operating System
MALL	Mobile Assisted Learning Language
CALL	Computer Assisted Learning Language
AI	Artificial Intelligence
TCD	Touch Screen Devisees
ISPL System	Electronic Book
QSL	Structure Query Language
XML	Extensive Markup Language
UI	User Interference
API	Application Interface
OEF	Open Education Form
PC	Punjab Curriculum
RBM	Research Based Model
HD	Hypothesis Development
SP	Student Performance
AV	Audio Video
OSS	Open Source Site
UL	Urdu Learner
UPS	Urdu in Primary School
S-learning	Student Learning
ISPL	Intelligent Student Primary Learner
PL	Primary Learner
RBS	Rule based system

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1
INTRODUCTION

1.1 Introduction

Today, the advancement of technology interact with numbers of children in worldwide to use smart mobile devices, regardless of their socioeconomic and ethnic background, to transformed learning concepts with new thinking prospective [4] [7]. Technology enhance to restructure the education according to interest of children via tough screen devices, they are most valuable and handy to use rather than other devices such as laptop, mobile and personal computer. Thus, touch screen digital devices also give importance to grow rapidly in the field of education for primary schooling system [5]. Touch devices are very important to enhance the learning capability of individual user because they allow many facility to develop skill with new prospective therefore they provide ideal platform to acquire interest of user how to use them. As for language learner devices are used to provide autonomy facility to encourage formal and informal learning system. Many devise provide important feature for students to enhance their vocabulary by installing number of previous available applications or tools such as English learning system (ELS), which are used and provide support according to their mode of devices in the field of education. Therefor when students once used single device then encourage self to find solution according to need behalf on multiple tools availability. This kind of work gives importance when student meet with their peers to enhance methods and finding based on discussion. The availability of numerous of task in the field of education or other popular areas such as photo blogging give the grantee to students for developing vocabulary in very short time based on their interest, so the photo blogging and comments on it influence the technical views of students on daily lives. The use of touch screen devices with appropriate system in the field of education give facility of artificial space. We know education is very important for those who live outside the learning environment so many mobile devise can be used to achieve this goal. Therefor the initiative purposes of touch screen tablet rise facility to install new apps with number of autonomous feature for preschool children education [6].

Traditionally, the learning of students has been offered and implemented in class, where children can directly access with her teacher face to face. Hoverer the distribution of technology has made easer the learning process [41]. There may be several applications

supported by software companies are available for primary school education but in the field of Urdu, teachers and parent face noteworthy issues to develop learning skill in children. Therefore we focus to develop Urdu based appropriate educational System "ISPL" for free of cost as offline and this system also used to access capability of student with their cognitive complexity to solve the problem. Now a day with the advancement of technology people manage work according to their life need such as time, space and complexity. Based on academic research electronic devices are very important in the field of education where people are not static. The use of devices makes conceptual view to learn logical task in available time from flaying information around big data. The trend of capturing flexible flaying information form number of educational institutions and companies with a single platform give comprehensive achievement [48] for example usage of the electronic device gives important impact on students and teacher to conceive learning methods and concepts.

The importance of ISPL for students based on android and different operating systems (OS) is used to help students in primary level education across Pakistan to enhance their skills. The ISPL system also used to improve vocabulary of students in particular way by exploring multiple subjects according to Pakistan curriculum. The bearing in mind, the purpose is developing simple system according to student need and useful application for android and iOS system such as smart phones, tablets and other touch devices- a kind of pocket book edition. The pocket based devices can be used everywhere there student want to use them according to education need such as on the way in bus, park, waiting stations. As content the ruled based ISPL system used to allow different subjects from class one to five with exercise, comprehension, random test, practice and evolution of student's performance.

1.2 Background

Teaching to preschool is complicated process which required sufficient techniques, in order to deliver knowledge in next generation as per their need. The progress of primary school children is mainly depending upon different developed methodology for learning in the field of education. Moreover, in the enhancement of student learning is based on basic strategy such as "number, alphabets, color and shapes" are introduce though interactive multimedia or mini touch screen used to help students for understand the basic visual concept [3]. On the other hand we live in the word where advance technologies get status in the field of teaching and learning at very fast speed. Recently mobile market has changed according to user need and advent to smart digital devices with iOS and android system

such as iPhone, tablets, iPad, devices rate growing fast in particular teen ager. The situation is same in Pakistan and companies encourage developing mobile devices and on the same contrast system developer focus on applications that which used to interact with education and encourage the students to spend free time on mobile devices. Numbers of applications software are available in market with incredible speed. Over 700 applications are easily available from app score and android market [49]. Among this all available application most system are related with ISPL system but we proposed ISPL ruled based system based on user need to optimize time, space and cost restriction [50]. It means that Lerner can learner Urdu at any time by using recommended system on suitable device to enhance their capability. With the continuous development of different apps in the area of education emphasize on Urdu learning and familiarity of touch screen devices among students influence to interestingly interact with their syllabus. According to mobile research mobile phone remain impact on student's life and give the important visualization, the mobile assisted language learning (MALL) and computer assisted language learning (CALL) is important for students to increase multiple activity according to their behavior and learning motivation. Seemingly the usage of MALL and CALL in the area of primary level education gives the important feature in content to enhance their interest to learn syllabus via Urdu themselves.

Implementation of educational curriculum teacher face problem to deliver concept for retrieving individual interaction and other class activities. On the other hand, number of difficulties rise for managing of text books and note books as for school requirements and children fell boor by extending with major problem of student bring bags. Multiple books show burden to make stress and introduce complexity at the time of learning languages or understand the original problem. The teaching of Urdu in primary school is a first language of Pakistan and also thought to be a second language in other south Asian department of studies. Urdu is not considering a separate subject for ideal future of country, because students cognitive response is need to develop completely based on formal activity of interest by communicating with different app to grow their personality with mother tongue [2]. Urdu is not very easy to learn in primary school level, especially for those students they are not native and live in outside of the southern countries. The children of outside from south Asia cannot capable to learn this language even motivational books are available. On the other hand the developing activity of children can be enhanced based on different task in the form of single system to show multiplex techniques for checking the

mental capability. The interface of ISPL can achieve the attraction of children to introduced new word or methods to learn syllabus via Urdu in primary school level education.

1.3 Problem statement

The use of modern technology and tools, we can develop flexible environments in which student learn collaboratively and share their knowledge and ideas with each other to produce a robust and worthy task. There is number of comparable educational platform are available in many languages except Urdu. In this research, we solve the issue by proposing a rule based Urdu learning system, "Intelligent Student Primary Learning (ISPL)" for different categories of students to enhance the learning capability via android system. There is fowling main functionality allow to develop ISPL system

- Non Availability of Urdu intelligent learning system
- Students Face problems of learning and reading urdu books
- Teacher does not Check students Caliper according to interest

1.4 Motivation

Since technology is grow rapidly in the field of education but still computer are not used in primary education sector in Punjab Pakistan. The teaching strategy is processed by traditional methods in the field of education to enhance the student's skills. It is dominated basic work to learn physically, where teacher show toward communicated interaction with student to judge their mental ability. On the other hand one of the drawbacks is overcome when insufficient failure of student activity come to contact such as in single class where we have children with order to different mental ability and above the average, so in which some of them cannot understand concept at the time of teaching and pay less attention and these difference shows difficulties for teacher to assessment work and deliver knowledge among students, even skill developer choose good method for teaching where children with not appropriate knowledge to achieve specific target but at the time of this good learner students will feel boring. With worth of technology in information and communication get popularity to deal with education by number of researcher [18]. They were tried to get intention and comparison with previous traditional methods based on advantage and disadvantage between modern and traditional learning techniques. The period of educational technology growing very fast to deal with commonly used science pedagogy process [19].

Learning is complicated process for targeting desire goal where there every day creates new challenge**.** Learning is vital phenomena to communicate with dynamic word**,** particularly society change at increasing pace. Based on technology learning is possible to target new incoming challenges with very small effort. The learning new language is a fun and important for developing connection between numbers of different society according to their environment. In mobile environment we cannot reach at all desire facilities, so some time we want to extent feature of our device according to our need therefore the developing application can help to achieve goal with the chance of create a connection with all environment. The mobile devices are used in variable places to hold heterogeneous data with number of different learning interface to express knowledge. New skills also come from different environments where knowledge distributed within particular language and numbers of methods are used to learn language as fun to extract specific information. But people also focus on any other factor that restricts to learn language in the form of disturbance come in content and make work more complicated. Learning process is very difficult in different areas such as learning a language is very different from subject matter for example learning Islamic study, general science, mathematics therefore special need get status to interact with various difficulty such as challenge to do main task and viewer also formulate new application in the area of education where problems are detected, so they to develop skills or solve all difficulties.

The number of educational books and apps are available in Google PlayStore with general formats based on paid criteria and with less motivational views for children in Urdu language to learn as whole concept about their interest. Therefore we are making intelligent interface ISPL system totally open source app for everyone to introduce learning via Urdu at primary school level such as basic alphabets, shapes, Islamic study, social study, general science, paly and stories. This system particularly useful for primary school education department to assessment the student IQ level and create a Urdu interface to interact with knowledge to achieve task. The Pakistan is a developing country has mother language Urdu with low literacy rate. Thus, they try to rapidly grow in the field of education among using multiple advance techniques and technology [1]. Moreover the mother language of any country give important impact to enhance children mentality so also give rise up socio economical interaction with number of problem to solve them in easy way but less concentrate of Urdu may not facilitate capability of doing task to achieve desire level.

1.5 Thesis Objectives

The general purpose of this pilot report is to enhance the quality of learning capability of Urdu based language in primary school children education departments. Thus, for this purpose we develop to introduce new offline ISPL system with more motivational and demonstrated educational specification based on intelligent interface that used to access children learning intelligent power through appropriate methodology via Urdu language. Therefore especially this study attended to identify the problems of teacher when they come to implement educational curriculum, design and development of tools and platform for mobile system used in primary level education, determine the end user capability to interact with our proposed ISPL as possible and to determine the level of mental ability of children in grade-I to grade-IV with increase the complexity of target. The target will achieve the level of complexity to check the cognitive rationality of children by defining the rule based method in ISPL system such as quiz, complexity of concepts and time limitation according to their class.

In past compere to previous develop system such as English learning are developing for different digital platform and not avail commonly to use for all devices and such type of systems are used to only for limited devices such as desktop based computer. In the field of information science advance technology grow rapidly to create several mini devices that are fit in pocket or avail to carry every place so has the need to develop system to run for our specific purpose that can reinforce teaching and learning on multiple devices platforms. Since the digital devices not only for classroom but they can also use everywhere in the globe and such way learning can be improved. With the help of our proposed ISPL system children can learn at any place with own convenient time. The timing functionality also can be used to access the mental ability of primary school children that's how much time the consumed to solve problem.

1.6 Research Questions

Now a Days, smart phones technology increase day by day, mostly every person use Android system. Technology enhance to restructure the education according to interest of children via tough screen devices, they are most valuable and handy to use rather than other devices such as laptop, mobile and personal computers. So Intelligent learning systems are very helpful in child studying. Students learn and encourage using intelligent leaning

systems. Intelligent systems good impact on student's mind. Good Inelligent sysems and applications are very helpful in schools' levels.

- What are intelligent learning systems?
- What are increase intelligent systems students' skills?
- How intelligent systems are helpful in studying?
- How should type of intelligent learning systems?
- What intelligent systems is design according students and teachers' minds?
- What is intelligent systems is design students need and interests?

1.7 Major Contribution

The ISPL system is designed in Urdu language using knowledge and rule based methodology with flexible pseudo code or algorithms on specific learning process that allow flexibility for checking the caliber of individual students with their mental assessment and distinguish the level of achievement by targeting learning capability such as taking quiz, reading comprehension, solving puzzle and refreshes their knowledge within time to achieve target for next one. The Pedagogical survey based five case studies variable (functionality, usability, performance, motivation and behavior) in this system are designed to explore the student's capabilities in offline environment via Urdu language and also performed for higher level testing of teacher satisfactions to collect the overall accuracy of the ISPL system. The result of the competition with learning assessment is display after finishing the task under the history for future reference to go to next level. The numbers of results are display and give the feedback to instructor about positive relation between Urdu learning system "ISPL System" and caliber of students at primary level.

1.8 Importance of Urdu for primary school curriculum

In present day Urdu is the national Language of Pakistan, mostly used in urban areas and spoken same as like Hindi. The study of ethnologies show number of languages used [25] for Pakistani culture major is given in table.

Table 1: Statistics of Language Used in Pakistan

Province of Pakistan	Native tongue	Percentage (%)	Mix language	Total use %
Punjab	Punjabi	44.47	Punjabi + Urdu	52.47
Khyber-Pakhtunkhwa	Pashto	15.60	Pashto Urdu	15.60
Sindh	Sindhi	14.56	Sindhi + Saraiki	14.56
Punjab	Saraiki	11.54	Saraiki + Punjabi + Urdu	16.50
Punjab	Urdu	8.07	Urdu	20.6
Baluchistan	Balochi	3.80	Balochi	3.80
All province	Others	4.68	All above mention and others	4.68

[Census, 1998, p. 107].

The basic tongue of preschool learning is important subject for research in the area of teaching and development of children skills [29]. Therefore both teaching and learning are controversy since the foundation of school system and curriculum rooted according to child known language, environment and culture, with appropriate strategy based on native method child can achieve goal using mother language. Therefore, it can create empowerment based on local interface between home and school to show interest, participation and engagement [27, 28].

The literacy rate basically depends upon publication about census report by Pakistan. The usage of Urdu language in school system to infer new knowledge and guarantee the conceptual stage in primary level to increase the capability to deal with complicated situation [25]. The mother tongue is used to encourage students in schooling system to enhance learning process and inspire multiple convention resolution, declarations for national and international progress [26].

1.9 Ratio of Educational Poverty in Pakistan

In the particular contact of Pakistan, new research report that language show impact on society to get advantages and disadvantages so therefore Urdu is official language and important to learn for development in early childhood (UNESCO et al. 2010).

Table 2: Ratio of Educational Poverty and Influence Of Language in Pakistan

Mother language	Educational poverty (%)	Extreme level Education poverty (%)	Lake of education (%)
Urdu language	11.22	10.22	12.13
Punjabi language	25.12	21.10	26.55
Seraiki language	54.64	48.00	39.2
Blochi language	54.12	53.24	40.21
Sindhi language	49.83	47.20	40.00
Pashto language	42.74	38.00	9.50
other languages	36.63	34.47	29.50

(UNESCO et al. 2010)

1.10 Teaching of Urdu Language and Difficulties

In learning system language gets central position in all satiations. Education enhances the capability of learning to deal with number of problems based on cognitive power that come from consideration of language to become instrument of thought [30]. The vial part of the education is seeking and gaining information based on particular language therefore language is the important tool for communication settings and human being show interaction with other communities through langue. The modern turn of mother language overlap with literacy rate to develop multiple skills for performing number of functions based on cognitive thought and very close related to mind [31].The children enjoy this language first stage for making the orientation in the cultural environment. In Pakistan mother language is Urdu and this also used to facilitate all type of setting as a good tool to develop learning capability in primary school students. The mother tongue is used for influence confidence to learn many other languages [23]. The Urdu is second language of the word after chines and gets popularity as official language of the Pakistan to show universal mode of communication. The learner of second language [l2] face problem at primary level for acquiring the skills to learn this language but native feel happy to gain

desirable concepts. The multiple heterogeneous mistakes are occur for students at the time of writing and reading such as they face grammatical issue like the proper use of verb, self-writing, surface of word, content, sentence structure, punctuation and spelling mistakes [21,22]. On the other hand children can harm cognitive thinking both in socially and economically [24].

The major reason for failure to learn the students is no any ideal platform available for crating the Urdu interface such as ISPL to understand the difficulties of teacher among students. Urdu script is derived from Persian so it can create problem for novel learner. On the other hand advance research introduces easy way based on high throughput technology to develop number of application for primary level children to support Urdu competencies in order to enhance the Urdu usage for all subjects. This can be only done by setting the parameter for Urdu language proficiency in both public and private sector.

1.11 Importance Of Artificial Intelligence (AI) Applications In Education

Today we can see the traces of Artificial intelligence in education and also used to deals with number of problem in multiple research areas such as natural science, space science, planning, weather casting, games, word recognition, speech recognition, hand writing, different software technology and one of educational sector to develop number of application therefore they also leads the attention of many researcher for over fifty year [15].Artificial intelligence application also applied in learning and planning process to make surprising world of such-elite system machine vision [38]. The main theme of artificial intelligence in education is to create a learning interface as like ISPL to judge the behavior and response of human being. They also used to perform the number of analysis in the process of teaching and learning.

1.12 Mobile Assisted Language Learning (MALL)

Mobile Assisted Language Learning is a divisional group of mobile learning with suitable system and computer Assisted Language Learning (CALL). Both MALL and CALL used to define the learning process of user based on her extendibility through particular social networking used to enhance creativity. The use and distribution of MALL in the field of education which differ from CALL based on their extendable feature such as portability, accessibility and content of usage [51]. Research study show some limitation of CALL

based on lack of depth knowledge, wrong observation, burden of work and limited knowledge about computer [52] the short comes and interest come from MALL and important prospective of CALL are

- Social networking and connectivity
- Usage of Content sensitivity
- Portability and mobility
- Individuality

These feature lake from CALL and not come to contract easy to influence learning process.

1.13 Apps (application software) In Touch Screen Devices Assisted Language Learning

The usage of touch screen devices including tablets and mobile phones has undergone a drastic alteration with number of functionality to installing software application in a single device. Suppose that smart devices are not new in the field of education but latest version show new mechanism to learn new procedure for introducing advance version that influence education with more reflexive and positive way. So the leaner interest show more efficiency to contact with advance version of devices with the help of any instructor, but some time advance mode of application no need to contact with us so this feature become very familiar and easy to understand for naive user [53]. Apps is a one alternative name of application software usually found in different apps stores and other version of heterogeneous devices extend with the advancement of different companies such as Samsung, blackberry and iPhones, so the apps are run on specific platform according to building mode in which some are free to download but some based on paid system. Touch Screen devices (TCD) and smart phones are distinguish according to rate of interest such as education, entertainment and gaming.

1.14 Statistics Demography of Application Users

The user influence to download application from play store with paid or free according to need.

Table 3: Statistics Of Application Users In Android Market

System (device)	Year	Age	Timing to usage	Total number of User
IOS	2015-2018	15-23	34.7hrs.	35 billion
Android	2015-2018	8-26	90.6hrs.	80 billion

1.15 Classification of Digital Devices Learning Apps

The statistical data of digital devices learning application exhibits the first processing in number of apps being design according to user need or by recommended system usage as for previous feedback and download every year across entire world. Urdu learning apps are available for learning to develop job skills but we still need a desire system. At the time of system selection difficulty come to contact which system is suitable for particular learner at which level or what they properly run in our devices.

1.16 Primary School Student's and Motivation With Mother Tongue

Touch devices are rapidly grown in the field of education, they are also finding to contact with early learner at level one to five. The children at early age used digital devices to interact with numerous of activities such as games, entertainment and education. The usage of electronic devices observation comes from experienced individual to judge children learning contribution [54]. With the development of technology used to show integration with number of fields to maintain positive feedback for young learner to enhance their capability to do effective work [55].

Apps provide the facility for children to educate them with very effective way. There are many educational application software are available in app stores for children, but the judgment for right one is difficult to content so the right app give number of benefits to enhance capability in the field of education. On other hand many mobile applications are used to facility early learn with slow speed after those children self-motivate to communicate with learning process. The smart devices give the number of facility based on different applications in education include.

Facilities of digital devices in android app for educational motivation.

Table 4: Digital Devices and Educational Motivation

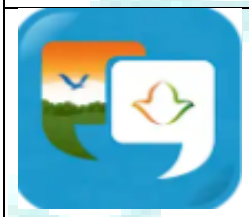
Sr.No.	Motivation feature
1	Mode for learning based on their interest
2	Entertainment such as movies, games, songs
3	Availability of networks
4	Best Utilization of free time
5	Fun and informal interest
6	Homogenous and heterogeneous mode of learning
7	Clock availability
8	Model based learning

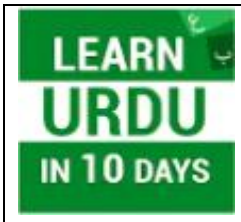
The current study show that the usage of smart devices influences the early children to communicate with education at very little age and develop numerous of skills to handle basic operations. Children get excitation to use these types of touch devices and joy a lot. Early age children show interest without noting the judgment of wrong and right especially in handle the smart devices. At the time of first stage parent and teachers is instrument to give right and wrong decision for their child to influence learning with very positively [56]. Kim and Smith proposed the developmental model for children to suggest that learning is based on robot such as smart devices is very easy for preschool children.

1.17Apps For Students at Primary Level In Android Market

The children at the age of 3 to 5-year show interest with number of devices to spend more and more time and children treat with mobile as their own fiend and learn the language to enhance her capability with very playing manner. According to [53] children interact with number of entertainment material rather than traditional methods such as games, puzzles, dolls and counting and also communicate with technology on daily basis. The case study show the expertise of children by increasing the development of social media as along children skills also develop with the usage of digital tools in friendly environment. Primary learner call the technology to learn language by using number of facilitated tools based on their interest such as animals, fruits, shapes, objects, color etc. The learning software is developing according to need of need of children in the field of Urdu and English both. Some important apps are mention in table for primary school children that are already available in different app stores.

Table 5: Apps for Students At Primary Level

LOGO	NAME OF THE APP	DEVICE	SKILL	OPEN SOURCE
	Learn-Urdu	Android Touch screen	Learning the core of Urdu	Open source (OS)
	Urdu learning app	Android	learning Qaida alphabets for children at level 1 and provide core concepts	Free(OS)
	Learn-Urdu quickly	Android	Urdu learning through English language and provide core concepts	Free(OS)
	Learn-Urdu language	All TC	Used for Urdu words and phrases	(OS)
	Kids Urdu Qaida	All TC	Easy to learning Urdu in primary level for new learner	Free
	Urdu Qaida with vice	Androids	Easy to learning Urdu in primary level for new learner with vice	Free
	Urdu-activity book lite	All TC	Urdu learning through English language and provide core concepts	(OS)

	Learn-Urdu in 10 days	Androids	Easy to learning Urdu in primary level for new learner with speaking	(OS)
	Urdu-Qaida pro	All TC	Urdu learning through inactivates with games	Paid
	Urdu for Class1	Androids	Easy to learning Urdu in primary school level according to Punjab curriculums	Free
	Urdu alphabet tracing app	All TC	Based on game and communicated with children as a fun to provide learning potential	Free

1.18 Consideration of ISPL System For Education

The software developer focused on user need to design system. The area of education is also interacting with technology to influence the process of child learning by using smart devices based on collection of software [39]. Presently number of researcher focused on digital devices and its environment by defining the difference of e-learning and mobile learning, saying that e-learning based on digital and electronic media but mobile learning is virtual network and wireless transmission [20] based on multiple program, software and application facilitate the understanding of educational concepts to enhance the area of quizzes, games, reading, writing and viewing shapes for better performance. The research area presented the number of system software as for Urdu, English, Science and mathematics in the field of education to motivate students for demonstrate her skills. On the other way researcher still no emphasize on Urdu leaning environment as like we proposed ISPL system and tools setting in primary level education.

Many researchers develop number of system based on different flexible languages such as java to review and revise course material for students in middle level education to show

English medium interference and this system allow the feature both online and offline to focus on multiple subject areas in education [20]. Therefore such type of system, user can use to take quiz and solve problem related to exam with high efficiency to judge mental ability [40]. Moreover some time slow learners of other language instead of mother tongue fail to understand the original purpose of learning. In Pakistan Urdu language is suitable in primary level to solve or understand the problem if student find any system that specific built for Urdu interface to develop their skills.

1.19 ISPL System (ISPL system) Environment

ISPL system is an android system design to develop for Urdu learning in primary school students. This system allows facilitating the students to achieve syllabus via Urdu and also used to assist the user to communicate with this system to increase their understanding. In addition this ISPL provide the comprehensive way to learn and understand Urdu to enhance the capability of education and get central position in primary level school system. This system had been developing based on JAVA XMAL which is available in android operating system and also implemented using android studio 3.0.1. The SQL lite is used to store and access data so it no needs internet connection to run in mobile platform.

CHAPTER NO 02

LITERATURE AND REVIEW

Learning Applications are computer based program, is designed to run on multiple environment such as mobile phones, tablet and other digital devices. The word app is derived from application software and this can be accessed very easily from app market according to setup of digital device operating system such as iPhone store for iOS is the f irst application for app distribution, BlackBerry, windows mobile stores and Google play store known as android market for android devices development and maintain by Google [57]. In Pakistan most of the application can be downloaded by naïve user based on open source distribution with no cost, but some availability is not free and downloading can only be done after paying fee. Digital devices supportable application can be downloaded from app market such as android, computer and iPad. At the time of starting mobile application was design for information retrieval and for general productivity in multiple fields such as calendar, timing, clock, mailing, mapping and weather casting etc. however, based on user interest the ability of application on digital devices and computer are very necessary for rising education sector and entertainment fun (sean-2012). The popularity of digital devices continuously keeps rising in the field of education. According to (ComScore-2012) mostly application are browsed on digital devices rather than computer.

The basic tongue of preschool learning is important subject for research in the area of teaching and development of children skills [29]. Therefore both teaching and learning are controversy since the foundation of school system and curriculum rooted according to child known language, environment and culture, with appropriate strategy based on native method child can achieve goal using mother language. Therefore it can create empowerment based on local interference between home and school to show interest, participation and engagement [27, 28]. The literacy rate basically depends upon publication about census report by Pakistan. The usage of Urdu langue in school system to infer new knowledge and guarantee the conceptual stage in primary level to increase the capability to deal with complicated situation [25]. The mother tongue is used to encourage students in schooling system to enhance learning process and inspire multiple convention resolution, declarations for national and international progress [26].

MALL emphasized to check the logical views of digital devices technology for used in education. Mall provides the facility for learner to do more active competition without communication with real classroom and front of computer. Therefore MALL also utilized to access practical method to facilitate language learner without restriction of time, space and complexity [58]. This facility provide flexibility, accessibility and interacted communication with numerous of mobile application based on virtual classroom to gain all attraction of leaner [59]. On the other hand phenomena of complex technology facility to language learner at primary level through the access of authentic logical resources, furthermore it gives the facility to children for knowledge accruing with simile mode and develops capability to solve heard problems [59]. More particularly, MALL gives the outstanding b benefits to number of students by exploring the interest of using digital devices to touch with online tutorial, reading study material, watching social impact of society and listing Urdu records , story and more complicated things in which they feel difficulties [60]. According to [61] MALL can facilitate the co constriction of phenomena of knowledge representation in the early stage. Primary level students communicate with their peer to share information to build more conceptual logic based on knowledge without losing authentic background to achieve desire goal and solve realistic difficulties in the field of all areas. The educational sector still try to used technology for introducing new word for keep in touch with new learner, usage of technology especially iPods , touch screen used early stage to enhance mental ability of students to see new architect with develop skills [62]. There numerous researchers give the explanatory result about MALL that used to provide facility as a helping tool for new language learner by constricting and enhance their knowledge within couple of time. The students actively involved to effectively increase the learning portion such as concepts, logics, senility, emotions and behavior toward very positively with the support of interactive multimedia, smart devices and touch screen [63]. Furthermore, scholar pays attention to enhance pedagogical methodology by using apps based on electronic media to exchange collaborative ideas to regulated authentic work such as encourage to exchanging educational ideas on network after discussing about project goal with their peers with the help of MALL and CALL.

In learning system language gets central position in all stations. Education enhances the capability of learning to deal with number of problems based on cognitive power that come from consideration of language to become instrument of thought [30]. The vial part of the

education is seeking and gaining information based on particular language therefore language is the important tool for communication settings and human being show interaction with other communities through langue. The modern turn of mother language overlap with literacy rate to develop multiple skills for performing number of functions based on cognitive thought and very close related to mind [31]. The children enjoy this language first stage for making the orientation in the cultural environment. In Pakistan mother language is Urdu and this also used to facilitate all type of setting as a good tool to develop learning capability in primary school students. The mother tongue is used for influence confidence to learn many other languages [23]. The Urdu is second langue of the word after chines and gets popularity as official language of the Pakistan to show universal mode of communication. The learner of second language [l2] face problem at primary level for acquiring the skills to learn this language but native feel happy to gain desirable concepts. The multiple heterogeneous mistakes are occur for students at the time of writing and reading such as they face grammatical issue like the proper use of verb, self-writing, surface of word, content, sentence structure, punctuation and spelling mistakes [21,22]. On the other hand children can harm cognitive thinking both in socially and economically [24].

The numerous of available resources play vital role in language learning education and material get necessary status to enhance learning productivity based on teaching process[64]. While in traditional methodology learning is mainly text based with number of settings Martials by given tool kit [65]. Virtual education is based on online web material to give important resources for new learner to achieve goal effectively [66]. The learning material is most important in the field of education and online resources are dominant part based on MALL to interact with language learner [67]. Language learning is enhanced by number of Urdu learning apps to enhance the productivity of primary learner in Pakistan and online resources are best to fit for accessing knowledge to extract skills [68]. Online resources used to improve the quality of learning and behaviors of instructor in teaching by accessing fulfill desire goals with very low cost and facilitate effective education [69]. However Urdu learning through app is very easy rather than ignoring the nature of data such as PDF or in other formats and multimedia tools are added to learn material in Urdu, which become vital part. The steady development of technology in the field of education, apps are made for Urdu to learn number of school task for preschool children. The quality and feature of apps are maintained according to student's level by integrating different task

to promote learning capability in students such as text, multimedia, animation, pictures and entertainment. With the help of using marketing and communication apps are interact with environment to encourage students at primary level to learn language based things [70].

At the time of communication with other people during learning process through Urdu some primary level students feel difficulties by linguistic restriction. When children grow educational skills with apps to learn language then students can express ideas and feel happy to do work. Recent studies motivate the naïve learner with app to influence positive results. The implication of recent study provide the early learning ideas to interact with Urdu language to explore learning process, for example students in primary school level use digital devices to increase independent skills capability also with writing[71].

The app developer focused on user need to design app. The area of education is also interacting with technology to influence the process of child learning by using smart devices based on number of applications [39]. Presently number of researcher focused on digital devices and its environment by defining the difference of e-learning and mobile learning, saying that e-learning based on digital and electronic media but mobile learning is virtual network and wireless transmission [20] based on multiple software, application facilitate the understanding of educational concepts to enhance the area of quizzes, games, reading, writing and viewing shapes for better performance. The research area presented the number of application such as Urdu, English, Science and mathematics in the field of education to motivate students for demonstrate her skills. On the other way researcher still no emphasize on Urdu leaning environment and tools setting in primary level education.

Many researchers develop number of application based on different flexible languages such as java to review and revise course material for students in middle level education to show English medium interference and this application allow the feature both online and offline to focus on multiple subject areas in education [20]. Therefore this type of application user can use to take quiz and solve problem related to exam with high efficiency to judge mental ability [40]. Moreover some time slow learners of other language instead of mother tongue fail to understand the original purpose of learning. In Pakistan Urdu language is suitable in primary level to solve or understand the problem if student find any application that specific built for Urdu interface to develop her skills.

Internet based online facility such as chatting; mailing and discussion about different projects motivate the learner and instructor to communicate with each other [70]. In addition learning ideas and learning content enhance the new user interaction by waving methods of multimedia presentation and other learning related material [72]. Beside other applications motivate the students with actively involved services such as collaborated study, which influence group based learning across all over word. Therefore the project based learning promotes the more accurate results to learn developed skills [73]. The educational apps are very rapidly growing in the field of technology by changing traditional mode of learning to influence self-regulated new methods to acquire knowledge actively [74]. Technologies motive the students [75] it helps to improve the academic performance and influence positive response for learning communication. The used of apps based on MALL insisted or motivate the student to encourage self-learning activity [76]. As a report learning at primary level students must be responsible for gain new skills by using mobile apps to do practice for diverse study [78]. The students especially who live in uneducated environment of Pakistani areas, app utilized to introduce high quality methods to motive them self for communicating with high throughput methodology for gaining information to determine new world. So the student can reach everywhere to gain knowledge and information [79].

The computer aided education (CAE) grows with a terrific interest and is distinctly depending on present day of technology. CAE tools can be categorized as: laptop aided learning (CAL) and laptop aided evaluation (CAA). CAL tools had proved to be powerful in pc technological know-how schooling. for example, they were used effectively in coaching and studying photograph structure with its rule based algorithms [2] operating machine guides [3] statistics shape courses [4] and center programming guides [5] [6]. CAL equipment additionally aid distance based method to gain knowledge through cell studying (m-learning) generation [7] [8]. CAA equipment is introduced to complement CAL. It includes electronic quizzes and surveys [9] [10], plagiarism and textual content reuse detection systems, and APAG structures. as an instance, Plug [11], MOSS [12], YAP [13] and PDE4Java [14] are plagiarism detection structures for college kids' programming submissions exceptional strategies were adopted to increase APAG structures. techniques may be labeled to three fundamental categories; dynamic or test primarily based, semantic-similarity based totally, and graph primarily based.

The dynamic-based is the most widely recognized method that has been utilized by many existing systems. Douce et al. reviewed computerized programming checks which can be dynamic-primarily based in [15]. The usage of this technique, the mark assigned to a programming mission relies upon on the output consequences from trying out it against a predefined set of records. However, this method is not relevant if a seasoned gamming task does no longer bring together and run to pro- duce an output. In this example, no matter how the assignment is good it'll get hold of a 0 mark. Furthermore, using dynamic-based technique does no longer ensure that the assignment generating correct output is following the desired criteria. Examples of dynamic-based systems are Cassandra [16] and Robo Prof [17] [18]. The semantic similarity-primarily based (SS-APAG) technique overcomes the drawbacks of the dynamic-based totally approach. The usage of this approach the grading of a student's seasoned-gram is done through calculating semantic similarities be- tween the pupil's application and each accurate version pro- gram after they may be standardized. This method evaluates how near a pupil's supply code to accurate answer, however this technique can become luxurious in phrases of time and memory necessities if the program length and problem complexity growth. ELP [19] and SSBG [20] are examples of this method. The graph primarily based method is a promising one which overcomes the drawbacks of other approaches. This approach represents supply code as a graph with edges rep-resenting dependencies among one of a kind components of the program. Graph illustration presents summary in-formation that isn't always best supports comparing supply codes with decrease cost (than semantic similarity technique) however also permits assessing source code quality thru studying software metrics comparing graph representations for two packages is achieved on the structure level of this system. This technique has been applied in two different ways: graph transformation together with in [21] and graph similarity inclusive of in [22].

After the few years later the natures of research enhance the ability of technology to deal with education sector according to students need, they used to introduce learning environment with flexible manner. The field of Urdu education is orphan to introduce logical views with primary class students and larger number of difficulties become during learning process within classrooms in reading writing and spelling abilities [16, 17]. Every student in every step need to require specific support for achieves next therefore this kind of problem create number of issue when they become to reach at scholar age. In most

educational sector expert focus on learning difficulties and develop number of domestic's apps for students to enhance her capability in area of education by taking quiz, reading comprehension, writing with rules and learning to assessment their score.

The steady development of digital devices in the field of technology introduced number of method to interact with education in our daily life to enhance the learning skills. In all field of education, institute and parent make good strategies to communicate with society so there has been reported an increased the trend to enhance the capability of children with efficient way by using large number of autonomous devices in order to development of learning environment, which important for learning process to increase skills [14]. Artificial intelligence (AI) is used to deals with number of problem in multiple research areas such as natural science, technology and one of educational sector therefore they also leads the attraction of many researcher for over fifty year [15].

Early childhood education access to demonstrate some aspects such as languages used for teaching to cover multiple subject area as like mathematics, science ,special education [11] [12] [13]. Traditionally student interacts with their teacher face to face for introducing physical connection to make knowledge. However the global distributions of digital devices make the learning process very easy based on access of mobile phones, tabs [9]. Over the last few years ago developing applications are not only focus on technical interest, but also involves for educational interest to gain interaction of multiple user [10]. The teaching and learning is a transection process and technology extending to accessible educational opportunity with different software companies. They also try to minimize the cost to reach quality of education [8].

The pupil retention is a critically difficult in schooling system even as intervention applications can enhance retention rates, such classes need prior understanding of students overall performance [95]. Therefore the performance prediction will become important. The usage of system getting to know to expect both the learner performance and the student dropout is a generally found subject in educational literature. The dropout prediction in virtual learning or e-learning is a common focus in such studies, because excessive dropout value adjust easily to be had statistics [96]. Students who are regions out of doors and depend on digital gaining knowledge are also common contexts where dropout or overall performance predictions are used for research. The motive of the studies of varies in a number of them and intention is to locate the best approach for prediction. In others, the

intention is without a doubt to evaluate whether or not machine learning is a viable technique for predicting pupil dropout or overall performance. One take a look at evaluating the effectiveness of gadget mastering for dropout prediction turned into executed at the Eindhoven University of Era [97]. Basic technique turned into to build a couple of prediction fashions the usage of distinctive gadget getting to know techniques, which include CART, BayesNet, and Logit. Then, prediction consequences of different models have been compared in terms in their effectiveness. The maximum successful version becomes constructed with the aid of J48 classifier [97]. A comparable have a look at was made with the aid of researchers from three exceptional universities in India [95]. An information set of college students changed into analyzed with the aid of exceptional algorithms, and then precision and recall values of the predictions have been as compared. The ADT decision tree version furnished the maximum correct effects [95]. But, predicting student overall performance instead of student dropouts is extra related with this report, and there are examples of such studies as precisely studies. The made in the Hellenic Open College analyzed using gadget gaining knowledge of in distance schooling [96]. Genetic algorithms and decision timber were used to construct a predictive model that's effects have been as compared in phrases of accuracy. The most accurate consequences have been furnished through the genetically advanced choice trees model [96]. The any other autonomous perception look at approximately overall performance prediction changed into made at the University of Jordan [98]. The statistical set of college students from one of same countries turned into used. In addition to the usage of man or woman system gaining knowledge of methods, the researchers also implemented ensemble techniques, and compared the effects among them. The choice trees provided the quality consequences at every other vicinity that the researchers centered on had been behavioral functions and model become constructed with and without these functions. It turned into found that the inclusion of behavioral functions progresses the prediction of consequences [98]. The closing take time to look at reviewed right here was additionally about overall performance prediction. It was accomplished at the college of Minho, Portugal [99]. The records set contained records about whether the scholar had exceeded the exam within the topics of math and Urdu language selection trees, random woodland, neural networks, and assist vector machines had been used [99]. This type of techniques had been in comparison in terms of accuracy and some other comparison turned into made among a facts set that blanketed the past exam outcomes and the only did not Inclusion of the grades resulted in

an stepped forward performance. The pattern is similar in maximum of this research. First, distinct rule based are implemented to a records set to construct prediction models. Then, predictions made by these models are as compared the usage of common assessment criteria, including accuracy, precision, and bear in mind and characteristic selection is also a usually in comparison criteria. However, what these studies are lacking is a greater comprehensive evaluation between distinct techniques along with method choice and feature engineering that is the part where this thesis can introduce a new technique. With the aid of comparing the effectiveness of different processes used in system gaining knowledge of, this thesis can provide insight into the greater green approaches to enhance predictions in pupil performance.

With the growth of education technology, students feel free to interact with digital devices for preceding teaching material to choose desire work to repeat the syllabus that not clear in class, on the other hand they also can understand performance based on immediately feedback in the form of scouring result to track their progress. Many digital devices are used to precede electronic education such as touch screen, mini tabs, mobile phones, interactive multimedia provide a great advantage upon modern learning. According to authors Clark Richard (Clark, R. 1983), (Dynarski et al. 2007; Kulik, 2003) they determine the comparison of computer and lecture both are better way for learning to understand the concepts of education, depending on time to used but some time computer performance make better results to develop skills as individual. The mobile applications are very important for teaching to create adopting environment for children. By taking the previous traditional teaching methods with respect to new technology, teaching can only facilitate by individual interest. Parent and students both try to actively involved with digital word to understand the newly technique for learning to enhance their child capability. The developing techniques explored with using sign board, AV add, image, poster in the field of education to interact with new environment [70]. Technology also used much more new pattern recognition method for developing early child mental ability by using numerous of facilitated techniques such as the usage of charts, images, drawing, experimental views and pictorial books for feature learning.

The large area of research facilitates the study of human attitude to use technology. Researcher encourages using well-establishing theories and models to investigate number of problem. The study infers the mechanism of how different learner interacts with

technology to enhance the learning capability and how student move toward positivity to communicate with android application.

The model app was developing to teach English for secondary school students by targeting their cognitive thoughts and behavioral response. They found positive results to improve the performance of students through use of application by any digital devices to learn English and this report also provide the mechanism of design, content and personal motivation all used to infer the positive behavior of students to increase their learning capability [32]. Moreover another research report the behavior of leaner toward the use of android application on mobile devices to facility their expertise to learn new things [33].

The widely used digital devices such as mobile learning apps are differ from other computer, based on some particular feature and these feature highlighted through their connectivity ,screen size , context and display resolution. These devices can carry everywhere and utilize application to learn data about specific purpose [34]. On the other hand learning application used to maintain the learner performance. The results of the study show that the usage of app can enhance the learning capability of moderate students [35].

The mobile learning is a particular step through application. In Malaysia researcher develop a conceptual model to gain the intention of android user to use application that was remain more suitable to increase the knowledge. They also finding positive feedback to handy use of device cause no disturbance for every gender and age [36].

Various studies have been used to investigated the value of standardized assessments [71] [72] admissions checks [73] and marks in previous classes [74] for predicting the academic success of students in undergraduate or graduate colleges. They agree on a fine correlation among these predictors and achievement measures consisting of MARKS to complete the diploma for degree completion except standardized checks, the relevancy of different variables for predictions of a student's MARKS have been investigated, commonly resulting within the end that MARKS from prior education and past grades in positive topics (e.g. math, chemistry) [75] [76] have a strongly fine correlation. Researcher [77] observes that easy linear and extra complex nonlinear (e.g. synthetic neural network) fashions often lead to comparable prediction accuracies and concludes that there may be both no complex nonlinear sample to be determined inside the underlying data or the pattern that cannot be

diagnosed by their method. Our simulations help the statement that easy linear fashions display a comparable accuracy in grade predictions as more complex strategies. The researcher find [78] argues that the accuracy of MARKS predictions frequently is mediocre because of special grading standards used in exceptional classes and indicates a better validity for grade predictions in single lesson. Therefore, many works recognition on figuring out relationships between a scholar's grade in a precise magnificence and variables related to the student [79]. The applicable factors have been determined to include the student's prior MARKS [80] [81] [78] [80], overall performance in associated among courses [71] [78] [80], previous section marks [81] overall performance in front checks [82], overall performance in early assignments of the magnificence [83], [84], class attendance [85], self-efficacy [80] and whether the pupil is repeating the elegance [86]. A quandary of the algorithms in the formerly discussed papers is difficult to use in many education situations. frequently, variables related to the scholar such as overall performance in related lessons, MARKS or self-efficacy are now not to be depend on individual trainer because the records has now not been gathered or is not available due to privacy reasons but, the teacher always has get entry to connect with facts and his/ her collects depend upon own path, inclusive of the overall performance of each student in early homework assignments or midterm assessments. This paper, consequently, focuses on predicting the final grade primarily based on easily available records, which have collected besides by means of the teacher. The different works [87] [88] which also completely use statistics from the course itself, differ significantly from this paper in several elements. First, they rely upon logged facts on the line of schooling or huge Open on line direction structures along with data approximately video-looking conduct, time spent on precise questions or discussion board hobby. In comparison, our consequences are applicable to each on-line and offline publications, which consist of some sort of graded assignments or related comments from the students at some stage in the path. Secondly, based on order for the instructor they allow you to take corrective actions on miles of exquisite significance to expect certain self-assurance on overall performance of students as early as possible. On the other hand our algorithm takes this into account by identifying for every student in my view the great time to make the prediction the use of a self-assurance measure; related works do no longer offer a metric indicating the gold standard time to expect. 1/3, whilst related works need training information from the direction whose grades they want to predict, we display that we will use schooling information from past year classes of the identical path

subsequently, in comparison to algorithms from associated work, that are best proven to be relevant to category settings (e.g. skip/fail or letter grade), our set of rules may be used both in regression and category settings. To make the predictions, related works use various facts mining models including regression models [89] [78] selection bushes [90] [18] [84] [78] [30], support vector machines [71] [84] [93] neural networks [80] [87] [91] Bayesian classifiers [79] [87], clustering [93] and nearest neighbor strategies [84] [56] [91] [94].

Moreover, an experiment is done based on android system to check the students learning performance and personal skills. They perform that different experiments at University and found that learning technology can improve educational performance, user satisfaction, environmental achievement and individual communication setting [37].The more variable study presented the internal and external factors of learner based on effective communication by using learning app to enhance their skills, thereby technology provide opportunity to influence students [38].

CHAPTER 03

METHODOLOGY

ISPL System is open source system (OPSS) available for mobile and web interface on rule based system, offering number of content for children to enhance their skills. This rule based ISPL system is used as a basic instrument having different artificial intelligent phases for Urdu learner to understand the different difficulties and concepts in order to number of books such as science, Islamic study and general knowledge in primary school level. On the other hand independent learning observation is made based on exercise and student performance to learn via ISPL system. The consideration of observation is depend upon variety of basic question such as facing difficulties for primary class students to learn curriculum and give feedback if students got right and wrong answer. These entire features allow the user to unlock next coming stage to achieve goal based on previous feedback such as emerging lesson plan for primary level. So we are going to make the system using the rule based and artificial techniques. ISPL system provides the facility, easy to learn for preschool children, toddler and kindergartener to write with smart digital devices and create a fun with students and teacher. There are following Rules setting for data driven to apply on ISPL system to design differ rent stages for learner.

Data driven rules of ISLP system

Rule ::= **start rule** id-rule
If premise – rule *
Then
Action rule

End rule

I-d rule ::= " sequence of character "
Premise – rule ::= conditions [/* comments */]
Condition ::= function i-d (argument) relational operator values
Arguments ::= identifier
Relational-operator ::= = | < > | <>
Value ::= identifier | constant | expression
Expression (arguments) ::= expression op-arit expression| numeric | num-function-id
Op-arit ::= + | - | * | /
Action rule :: = action- id (arguments) affectation-op value
Affectation-op ::= <- | <==

All satisfactory terms are used to conceive logical consequence output. The term and condition also used to complete the phenomena of process that include running ISPL system.

Architecture of ISPL System

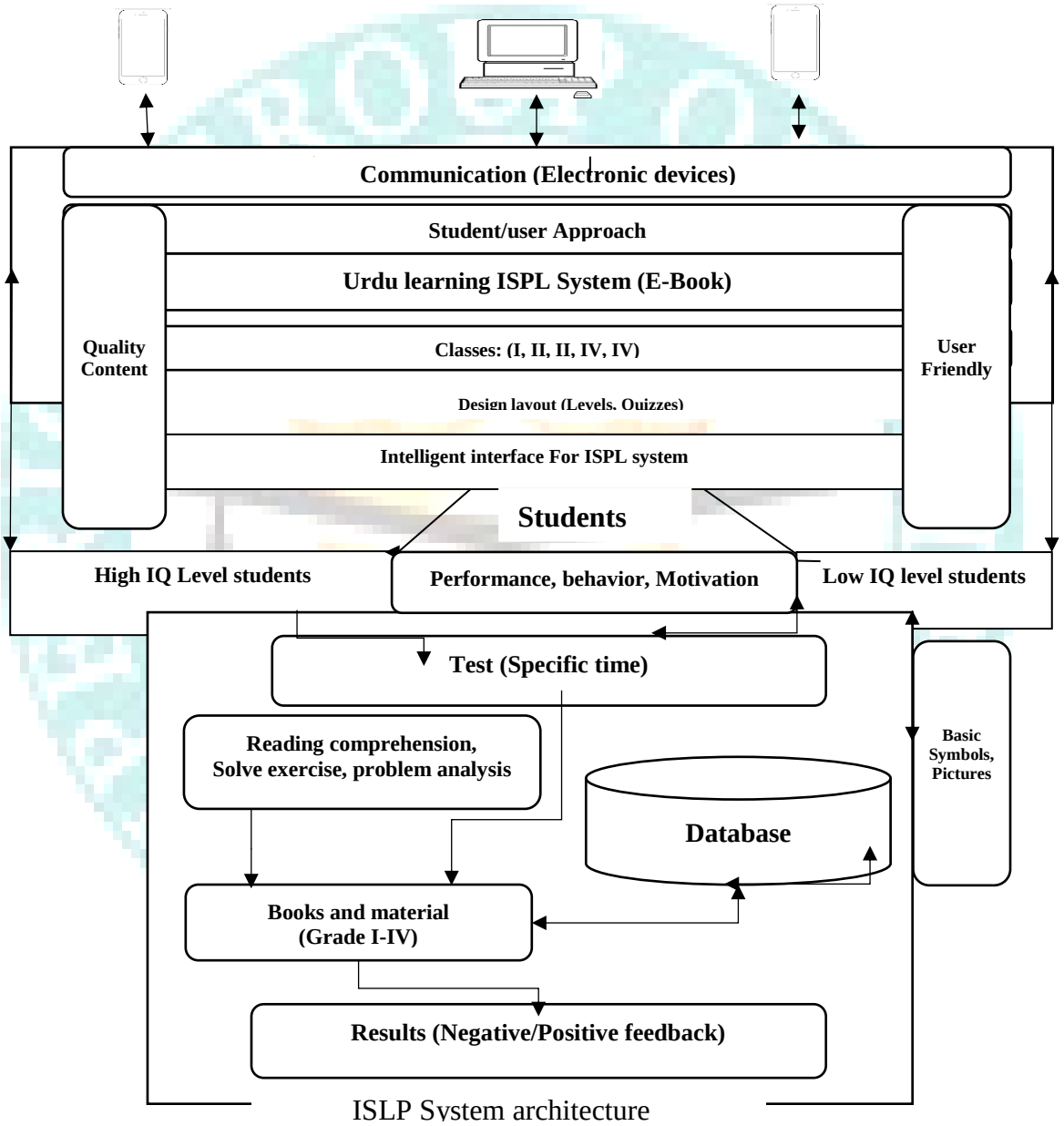


Figure 1: Architecture of ISPL System (ISPL system) describe the methodology used in this study

We proposed worked is explained with this given Architecture of ISPL System (ISPL system) describe the methodology how the system is work and going on to manage quiz

with rule based setup. The rule based mechanism is explained based on each step that include interacting user such as primary class student and every portion explained with logical detail.

3.1 ISPL Interface And Students Interaction

The available content play vital role for children learning in primary school education and setting get important status to achieve learning productivity based on teaching process. The ISPL System (ISPL) is computer based system, designed to run on different operating devices such as smart phones and tablet. The word ISPL is overlap with system software and this can be accessed very easily from digital market according to availability of digital device OS such as iPhone library for iOS , windows mobile platform and Google play store known as android platform for android devices. In advance Google also play key roles to develop and maintain apps [57].

The rule based system is used to fellow given designed rule and handle user query for done requirement according to primary class student and rule implantation is as fellow main page student query and query handle process.

Start rule *"Student Start Action In Front Page"*

If student (x)

age (x) ≤ 8

class (x) = x

*/ *primary classes * /*

Subject (x) = "URDU"

*/ *English */*

Then

Display <- "Welcome Page"

End rule

In starting system retrieve information from database according to selection of level and prediction of student demand and then system run this target based query similarly to need within given rule. the more particularly, android market gives the outstanding outcomes to number of students by exploring the interest of using digital devices to touch with educational material in which they feel difficulties and ISPL system used to facilitate all from every side in single platform. ISPL System (ISPL) based on electronic devices used

to facilitate the phenomena of knowledge representation in the early stage. Primary level students used this ISPL System to interact with their peer for sharing information to create logic without losing ethics to achieve desire goal and solve realistic difficulties. The education departments continually try to used technology for introducing manageable platform for new learner, usage of technology particularity touch screen enhance ability of students to develop skills, therefore ISPL design to provide all this flexibility.

We proposed the Urdu artificial intelligent learning inference system such as ISPL System (ISPL) that used to focus on work via communication of student need and dataset and do experiment based on availability of school students to show interaction with ISPL system used to provide the explanatory result about how used to provide facility as a helping tool for new learner by constricting and enhance their knowledge within couple of time.
The students actively involved to effectively increase the learning portion such as concepts, logics, senility, emotions and behavior toward very positively with the support of interactive multimedia, smart devices and touch screen. Furthermore, my work emphasizes to enhance pedagogical techniques by using ISPL system based on digital devices to communicate and exchange collaborative ideas.

Figure 2: Interface Of ISPL System Frontal View "Work Communication Focus"

3.2 User friendly Environment of ISPL System (ISPL system)

With the advancement of technology user also find flexible platform to use application. We proposed ISPL System ISPL system including number of feature such as rule based background management with flexibility or easy to use and influence the learner to communicate with number of given content based personal attitude to getting for desire information. The all physical arrangement of ISPL system gains the attention of new user to use in very flexible way. Therefore if user feels any difficulties at any stage to use application so may they don't try to use and want to leave it, therefore we try to proposed ISPL system that offer easy layout to get attraction.

Start rule *"Reset Setting of System"*

If student (x)

age (x) ≤ 6

subject (x) = "Urdu"

student (x) = "After Finishing task"

*/ * When every student assessment has been complete, next class assessment level is open when student reset system * /*

End rule

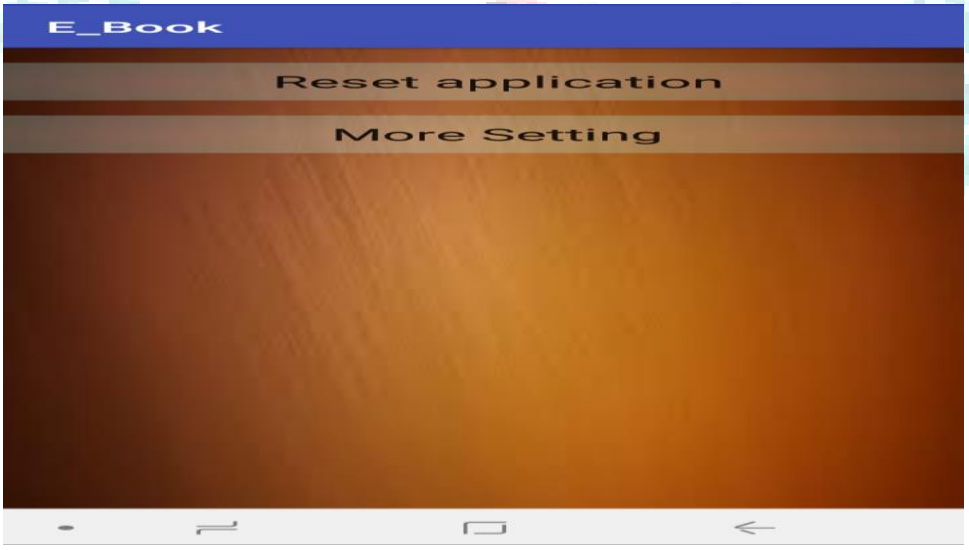


Figure 3: ISPL System Reset Setting

The user friendly environment of ISPL system provides facility for new user in easy mode to use intelligent system. The quality content of intelligent learning inference also provides the communication with system to influence performance and this type of feature also helps students to communicate with many other applications by performing fun. Therefore the simple use of application enhances the behavior of Urdu learner with positive feedback. Furthermore use of ISPL system enhances the confidence and skills of students in primary level and give interaction with smart mobiles to learn many other develop features. The usefulness of ISPL System ISPL system provides the great impact on students to increase the capability of learning, performance and their satisfactions

3.3 ISPL System (ISPL system) Learning Content

The opening assessment document based Learning is complex and rule based process for achieving suitable goal, where every day becomes challenge**.** The implementation of learning is necessary phenomena to interact with dynamic world. Based on technology learning is possible to target new upcoming challenges with very small effort. The learning is a fun and important for developing connection between numbers of different society according to their environment. In mobile environment we cannot reach at all desire facilities, so some time we want to extent feature of our device according to our need therefore the developing application can help to achieve goal with the chance of create a connection with all user according to their need.

The multiple content of ISPL system which one opening assignment document is used in variable places to hold heterogeneous data with number of different learning interface to express knowledge. The content influence learner to call new skills, they also come from different environments where knowledge distributed within particular language and numbers of methods are used to learn language as fun to extract specific information. The ISPL system learning content consist of seating, tool, level, feedback etc with different color scheme for to deal with subject matter, such as learning Islamic study, general science, mathematics at primary level, therefore special need get status to interact with ISPL System (ISPL system) to resolve challenge to do main task. The content of ISPL system is used to facilitate students in very easily mode.

3.4: Motivation Of ISPL System (ISPL system) For Teacher and Students

Teaching to primary school children is very complex mechanism, which required appropriate methods, in sequence to deliver knowledge as per their need. The development

of primary school children is mainly developed on learning methodology. Moreover, in the field of education active enhancement of student learning capability is fully depend upon basic strategy such as “number, alphabets, color and shapes” that mention is this app to apply though interactive multimedia, smart phones or mini touch screen used to help students for understand the basic virtual concepts [3]. We live in communicated world where advance technologies get status in teaching and learning with very fast speed. Recently digital market has modified according to user need and introduces the smart devices with android system such as tablets and other smart devices. The growing rates of apps are fast in individual learner. This situation is same in Pakistan and companies encourage developing mobile devices and on the other hand app developer focus on applications that used to interact with education and students spend free time on mobile devices. Numbers of software applications are available in android market with repaid speed. The numbers of applications over 750 are easily available from app sore and android market [49]. Among this all application some apps are related with Urdu learning interface for students. ISPL System (ISPL system) Urdu learning software’s are design based on user need to optimize time, space and cost restriction [50]. It means that students can learn Urdu at any time by using recommended app such as ISPL System (ISPL system) on suitable device. With the continuous development of different apps in the area of education emphasize on children learning and familiarity of touch screen devices among students influence to interestingly interact with their syllabus. According to mobile research the impact of digital market on student’s life provide the important visualization, the mobile assisted language learning and computer assisted language learning is important view for students to increase multiple activity based on their behavior and learning motivation. Seemingly the usage of MALL and CALL in the area of basic level education maintain the important feature to increase their interest for learn Urdu themselves without communication with her instructor.

The Implementation of educational curriculum in primary school level with specific way where teacher face problem to transfer logic and attending individual concentration with numerous of class activities. On the other hand, number of difficulties rise for managing of text books and note books as for school requirements. The main difficulty of students at the time of seeking knowledge is to become in contact and introduce complexity to learn her syllabus. The teaching of Urdu in primary school (UPS) is a first langue of Pakistan and also thought to be a second language in other south Asian department of studies. Urdu

is not considering a separate subject for ideal future of country, because students cognitive response is need to develop completely based on formal activity of interest by communicating with different app to grow their personality with mother tongue [2]. The basic content of Urdu is not soft to learn in primary school level, especially for those students they are not native and live in outside of the southern countries. The children of outside from south Asia cannot capable to learn this language even motivational books are available. On the other hand the developing activity of children can be enhanced based on different task in the form of single app to show multiplex system for checking the mental capability. The interface of artificial intelligent app can achieve the attraction of children to introduced new word or methods to learn Urdu in primary school level education.

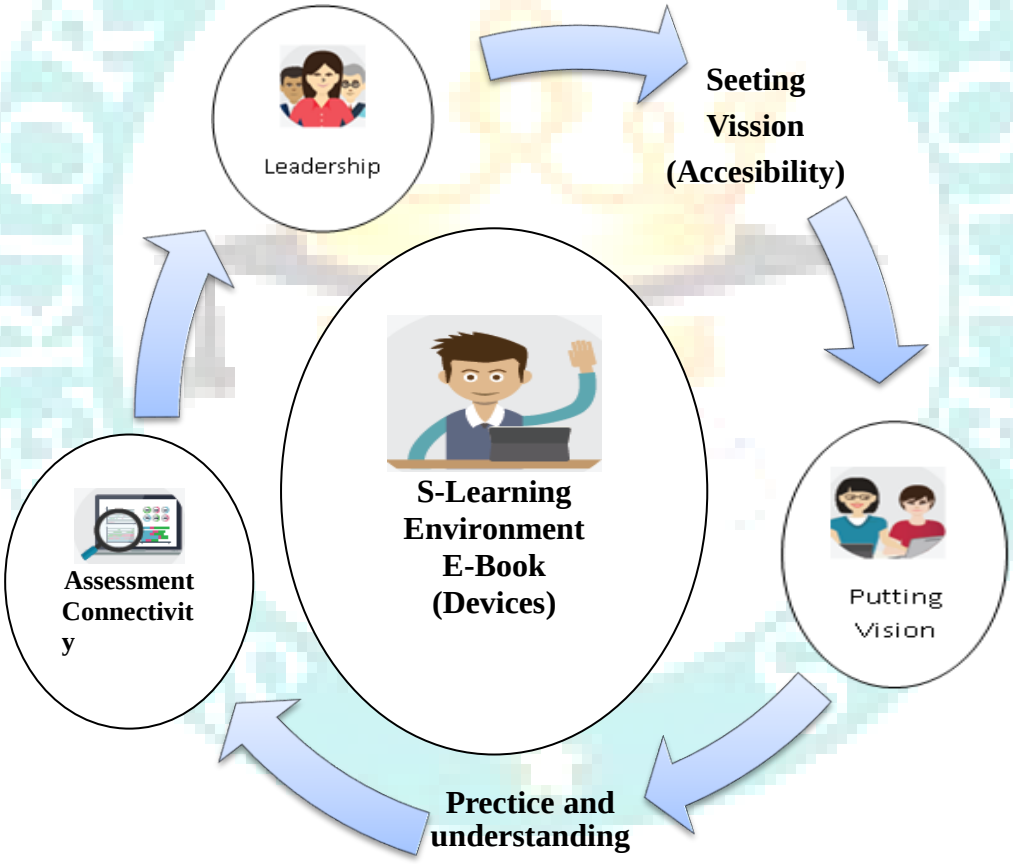


Figure 4: Show The Possibility Of Learning Everywhere

3.5 Quality Content of ISPL System (ISPL system)

Learning quality content mechanism play a vital role for students to learn this ISPL system effectively based on number of feature such as motivation, understanding and attraction

based on different coloring scheme. The essential part of technology in the field of learning is highly appreciated to allow the user to contact with this type of application. Furthermore students effectively move toward learning based on attractive feature content and this type of facility help the students to access specific information as par their need information. The ISPL system attractive contact information can be in the form of division, formulas, outline, graphics and equations are used to inspire the different students to learn effectively. In the addition the quality of content of ISPL System ISPL system based on multi-color used to facilitate the students for experimental and objective work. The quality content of artificial intelligent learning inference used to give satisfactory view, cause happiness of students. Hence the Quality content enhances the capability of ISPL System (ISPL system) learner behavior and increase satisfactions.

3.6 Layout ISPL System (ISPL system)

The logical views about typographic give the facility to students for communicate with ISPL System to learn Urdu in primary level (PL). With the advancement of learning the numerous of user encourage to incorporate with digital market to find appropriate device. The size of screens give flexibility according to use of electronic device such as digital tab and smart phones display, resolution and navigation is different to fit with multiple platform, therefore ISPL System show mobility to adjust with them according to their specification. The standard size of ISPL System divide in to number of dynamic content as like menu, navigation, quiz level. This type of interacting content used to gain the attention of student to motivate for learning on their desire query [43]. Physical designing layout of the ISPL System based on different colors show logical effect on student behavior for learning new things with the help of Urdu [44].

The physical arrangement of ISPL system provides effective communication with students based on attractive content mechanisms such as graphics. The numerous of learner want to develop skills and knowledge how we can learn application before going original goal, so in ISPL System screen consistency provide the facility for learner to use very handy. The colored features also motivate the students to interact with ISPL system among their desire information. The purposefully communication allow to do main task as like if we cleared a color red then it is a massage that task is a finish or students can restart her test, so colored layout actively involved to influence the learner behavior in positive way[45]. More

particularly the ISPL system layout increases the Urdu learner behavior and also gives the capability to interact effectively to learn Urdu.

Table 6: ISPL System Layout Features (Characteristics and materials of ISPL System)

Sr.No.	Characteristics And Materials Of ISPL System
1	Loveable characters for primary school students
2	Rich user interference (UI) layout
3	Important topics and test for exam preparation
4	Soft and confortable reading mode
5	Students assessments techniques and methods
6	Motivational techniques for creating interaction between app and students
7	Offline work
8	OSS free available in digital market
9	Portable for Android and desktop based operating system
10	Digital devise optimization feature such as for smart phones
11	Mobile optimization images and contents
12	Chapter wise complete topic
13	Coverage of all topics
14	No need to network connection
15	Never need to third party software
16	Small in size and very simple user interface
17	Easy navigation

3.7 Distribution of Syllabus with Complexity of Quiz and Classes in ISPL System (ISPL System)

The study emphasizes to identify the difficulties of teacher, when they come to implement educational curriculum at primary school level. The design and development of tools and platform for mobile application used in basic education level to determine the end user capability to interact with ISPL system as low as possible and to determine the level of mental ability of children in grade-I to grade-IV. With increase the complexity of target the

level of complexity to check the cognitive rationality of children by defining the proper method in ISPL system such as quiz, exercise complexity of concepts and time limitation according to their class. The following prospective terms and parameter are used to define the syllabus for primary school students according to their curriculum and ISPL System involved managing this curriculum for grade I to grade IV.

3.7.1 ISPL System Work Proximity

Start rule *" Complexity of Question for Intelligent Students"*

If *student (x) = "Intelligent"*

Subject(x) = "Urdu"

Given question = "50"

*Logic set (x) = "5sets" / * Every set consists of 10 question * /*

*/ * Each quiz question is set in 5 sets easy, difficult and more difficult * /*

action (y) = " Question Shuffle for intelligent student"

*/ * Student first question is attempt correct then system ask next question difficult, student attempt difficult question, then system ask more difficult question * /*

Then

Display <- "Questions"

*/ * Questions appear with images * /*

End rule

The "Complexity Of Question For Intelligent Learner", rule show that when ISPL system is provide assessment of students, if the student corrects the first question correctly, so the second question is given it a bit more difficult and then then third question is given a bit more difficult so that process is continue and in this way the students completes their assessments.

Start rule *" Complexity of Question For Slow Learner"*

If *student (x) = "Slow learner"*

subject (x) = "Urdu"

Given question = "50"

*Logic set (x) = "5sets" / * Every set consists of 10 question * /*

*/ * Each quiz question is set in 5 sets easy, difficult and more difficult */*

action (y) = " Question Shuffle for slow student"

*/ * Student first question is wrong, system ask next question within one set, student again attempt wrong, system ask again question within one set * /*

Then

Display <- "Question"

End rule

The “Complexity of Question for Slow Learner", rule show that ISPL system provide 25 question. If the students accepts five questions, then ISPL system ask question within one set of quiz. Because each set of question is consists of 10 question.

Start rule *"Complexity of student For Average Student"*

If student (x) = "Average"

subject (x) = "Urdu"

Given question = "50"

*Logic set (z) = "5sets" / * Every set consists of 10 question * /*

*/ * each quiz question is set in 5 sets easy, difficult and more difficult * /*

action (y) = " Question Shuffle for average student"

*/ * Student first question is attempt wrong then system ask next question easy, student correct easy question, then system ask next question is difficult and continue*

Then

Display <- "Questions"

*/ * Questions appear with image * /*

End rule

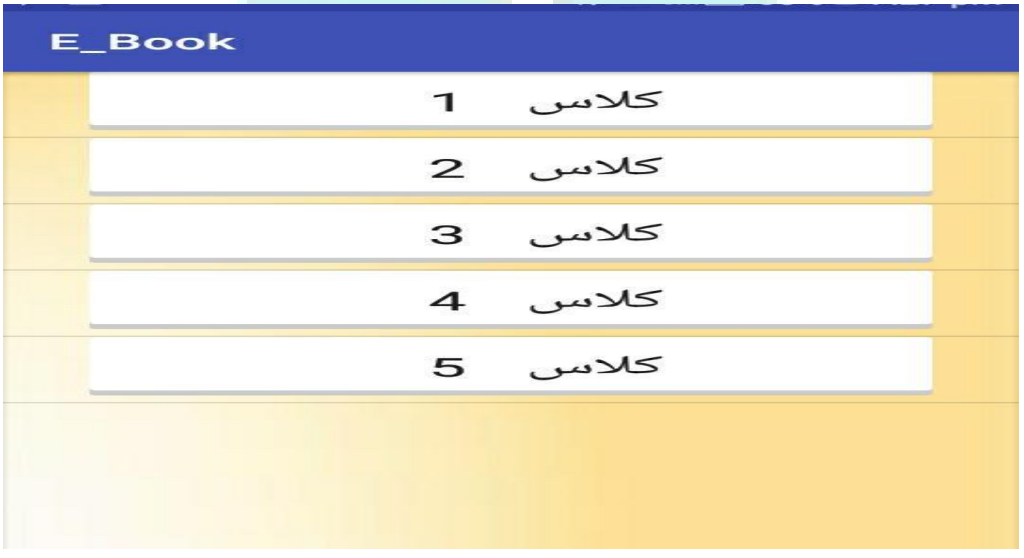


Figure 5: The Syllabus Including In ISPL System Accruing To Punjab Curriculum

3.8 Distribution of Syllabus and Classes In ISPL System.

3.8.1 Curriculum of Preschool Children In ISPL System ISPL system

ISPL system provides the facility to learn Urdu for preschool children in education department, such as step one is learning Urdu Qaida especially design to gain the attraction 3-7 year old students. Furthermore this system is very useful for all toddlers and kids, who want to learn with basic alphabets to increase their capability.

Table 7: Preschool Syllabus contents

Sr.No	Syllabus content
1	All basic alphabets description with colors
2	Popping balloons
3	How to write and Shapes of each alphabet
4	Matching alphabets
5	Dragging and aligning of alphabets
6	Selection of correct alphabets
7	Exercise
8	Compression of test based on game activity

3.8.2 Curriculum Of Grade I to III Students In ISPL System

The open educational form (OEF) provides the facility to promote affordable education for everyone at primary school level in Pakistan. The OEF take the responsibility to educate numerous of students by provide free of cost books material in electronic format.

Table 8: ISPL System Syllabus Coverage At Grade I to III

Sr.No.	Syllabus content
1	Poems
2	Vocabulary such as shapes, animal's names etc.
3	Picture stories

4	Fill the blanks
5	Extensive, short and multiple choice question
6	Column matching
7	Lesson with their exercise
8	Grammar, rules and regulation
9	Question, answer and test section
10	Assessment activity
11	Comprehension and questions

With this ISPL System (ISPL system) grade I to III students are encourage to learn about poems, rhythms, joining alphabets, fill in the blanks , comprehension, Column, stores and assessment exercise with the help of ISPL system in which used number of picture and graphics effects to achieve children capability.

3.8.3 Curriculum of Grade IV to V students in ISPL System

In previous level ISPL System (ISPL system) grade I to III students are encourage to learn about poems, rhythms, joining alphabets, fill in the blanks , comprehension, Column, stance , stores and assessment exercise with the help of ISPL system in which used number of picture and graphics effects to achieve children capability. Or in advance level the ISPL System consist of syllabus with grade IV to V students are encourage to learn about poems, rhythms, joining alphabets, fill in the blanks , comprehension, Colum, stance , stores and assessment exercise with the help of ISPL System in which used number of picture and graphics effects to achieve children capability.

Table 9: ISPL System Syllabus Coverage At Grade IV to V

Sr.No.	Syllabus content
1	Poems, latter, stories
2	Vocabulary
3	Picture stories and their details
4	Fill the blanks
5	Extensive, short and multiple choice question
6	Column matching
7	Lesson with their exercise

8	Grammar, rules and regulation
9	Question, answer and test section
10	Assessment activity
11	Comprehension and questions

3.9 Detection of Intelligence Level of Students According to Syllabus

With the enhancement of technology, we can see the traces of Artificial intelligence (AI) in education. The AI is used to deals with number of difficulties in numerous of research areas such as planning, medical, weather casting, games designing and playing, word speech recognition, hand writing styles and formats and different software technology. The one other important feature of AI is in educational sector to develop numerous of application for students to motivate them for education. Therefore AI leads the attention of many researchers for over fifty year. AI application also applied in learning and planning process to make surprising elite system machine vision.

Start rule *" Student of Intelligent Learner"*

If *student (x)*

age (x) ≤ 7years

*/ * age can be 7 and more * /*

subject (x) = "Urdu"

*/ * assessment of Urdu Quiz */*

Class (x) = x

*/ *primary classes * /*

marks(x) ≥ 100

*/ * out of 100 * /*

Then

Announce <- "Level 1,2 is open and also 3 level is open "

*/ * Urdu books are open * /*

Advice Display <- "Always be working hard and stay successful in life"

End rule

We proposed the area of artificial intelligence in ISPL system is to create a learning interference to judge the test, score, achievements, results, behavior and response of student at primary school level. ISPL System based on AI also used to perform the number of analysis in the process of teaching and learning to do feedback.

Start rule *"Calculating idle time "*

If student (x)

Age of student (x) ≤ 10

*Idle time (x) = 30 / * time in seconds * /*

/ every question is 30per second */*

Role (x) = student attempt questions

/ within 30 seconds */*

Then

Idle time (x) <- current _time (x) - initial _time (x)

*/ * the idle time is calculated */*

Display (x) <- " Next questions"

*/ * students do not attempt question within time next question is display */*

End rule

Figure 6: Time frame Of ISPL System

3.9.1 General Assessment Of students: Score, Time Quizzes, Learning And Testing

The general purpose of this report is to enhance the quality of learning capability of Urdu based language in primary school children education departments. Thus, for this purpose we develop to introduce new offline app with more motivational and demonstrated educational specification based on intelligent interface ISPL system that used to access children learning intelligent power through appropriate methodology based on Urdu language. Therefore especially this study attended to identify the problems of teacher when they come to implement educational curriculum, design and development of tools and platform for mobile application used in primary level education, determine the end user capability to interact with this app as low as possible and to determine the level of mental ability of children in grade-I to grade-IV with increase the complexity of target. The target will achieve the level of complexity to check the cognitive rationality of children by defining the proper method in Urdu app such as quiz, complexity of concepts and time limitation according to their class.

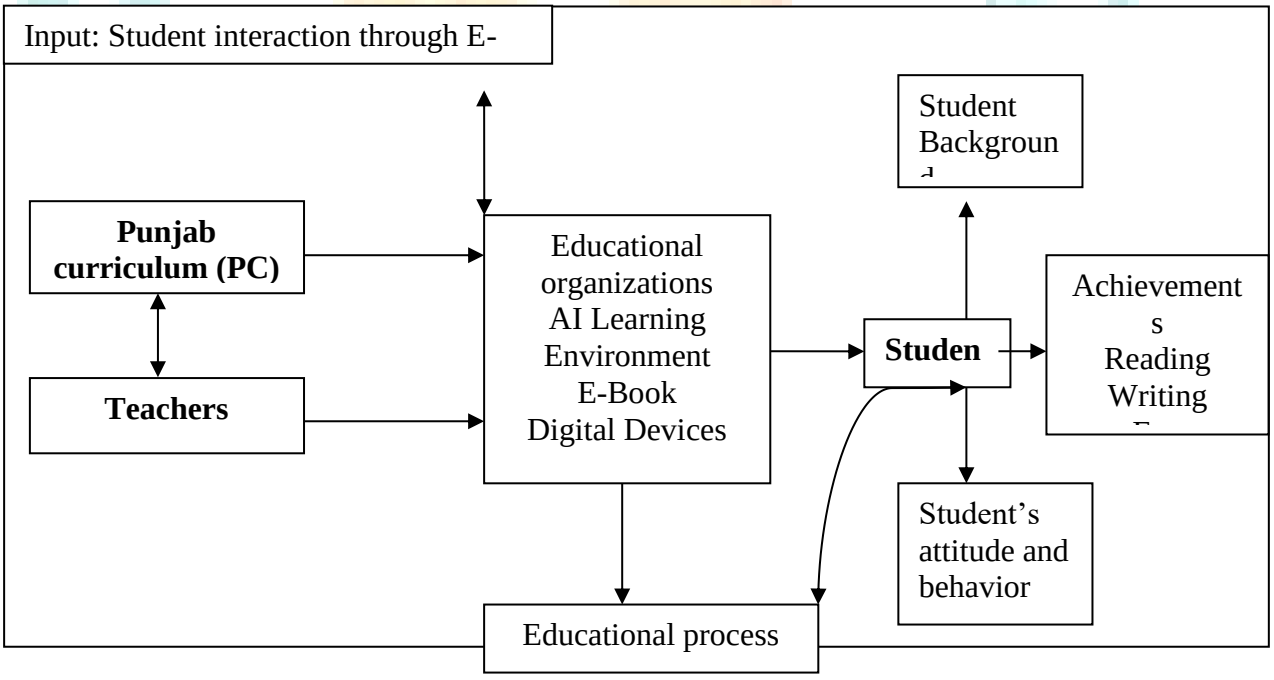


Figure 7: Show The Flow Of Students Performance, Behavior, Motivation Assessment

```
    public void second_seat(Context context){
        list2.clear();

        Quiz_1 obj;

        obj= new Quiz_1("6","یہ  کیا ہے؟
","بلا","ہاکی","ریکٹ","بلا",BitmapFactory.decodeResource(context.getResource
s(),R.drawable.img_bat));
        list2.add(obj);
        obj= new Quiz_1("7","نام بتائیں؟ پاکستان کے دارلحکومت کا
","اسلام آباد","لاہور","پشاور","
آباد",BitmapFactory.decodeResource(context.getResources(),R.drawable.img_mosq
ue));
        list2.add(obj);
        obj= new Quiz_1("8","یہ  کیا ہے؟
","فاختہ","طوطا","چڑیا","طوطا",BitmapFactory.decodeResource(context.getReso
urces(),R.drawable.img_parrot));
        list2.add(obj);
        obj= new Quiz_1("9","یہ  کیا ہے؟
","شیر","چیتا","لومڑ","شیر",BitmapFactory.decodeResource(context.getResource
s(),R.drawable.img_line));
        list2.add(obj);
        obj= new Quiz_1("10","یہ  کیا ہے؟
","بیگن","آلو","کدو","کدو",BitmapFactory.decodeResource(context.getResources
(),R.drawable.img_pumpkins));
        list2.add(obj);
```

Figure 8: The Above Diagram Show The Content For Taking Test

The large area of research facilitates the study of human attitude to use technology. Researcher encourages using well-establishing theories and models to investigate number of problem. The study infers the mechanism of how different learner interacts with technology to enhance the learning capability and how student move toward positivity to communicate with android application and students by targeting their cognitive thoughts and behavioral response. They found positive results to improve the performance of students through use of application by any digital devices to learn English and this report also provide the mechanism of design, content and personal motivation all used to infer the positive behavior of students to increase their learning capability. Moreover another research report the behavior of leaner toward the use of android application on mobile devices to facility their expertise to learn new things.

Start rule *"Calculate the Result"*

If *student (x)*

Class (x) = y

*/ * classes of primary level */*

Age (x) = ≤ 6

*/ * age can bi 6 and more * /*

Subject (x) = "URDU"

Submitted (x) = result of assessment

Then

Calculate (x) <- "Result of assessment"

Advice / Teacher suggestion */*

End rule

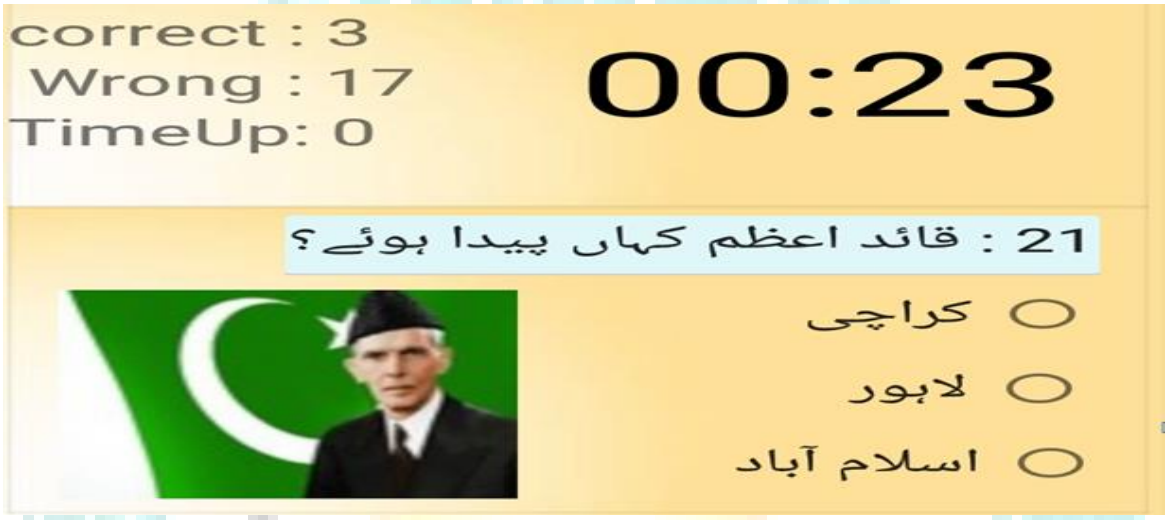


Figure 9:Runtime ISPL System Show Result And Time

Moreover, an experiment is done based on android app to check the students learning performance and personal skills. They perform that different experiments at University and found that learning technology can improve educational performance, user satisfaction, environmental achievement and individual communication setting. The more variable study presented the internal and external factors of learner based on effective communication by using learning app to enhance their skills, thereby technology provide opportunity to influence students.

3.10 Feedback of All Running Task

The statistical data of digital devices learning application exhibits the first processing in number of apps being design according to user need or by recommended system usage as for previous feedback and download every year across entire world. Urdu learning apps are

available for learning to develop job skills. At the time of app selection difficulty come to contact which app is suitable for particular learner at which level or what they properly run in our devices, so the learner apps are classified as fellow.

Working ISPL System In Levels Of Students

Start rule *"Opening of Level For Intelligent Learner"*

If *student (x)*

age (x) ≤ 7years

*/ * age can be 7 and more * /*

subject (x) = "Urdu"

*/ * assessment of Urdu Quiz */*

Class (x) = x

*/ *primary classes * /*

marks(x) ≥ 100

*/ * out of 100 * /*

Then

Announce <- "Level 1,2 is open and also 3 level is open "

*/ * Urdu books are open * /*

Advice Display <- "Always be working hard and stay successful in life"

End rule

Start rule *"Opening Of Level For Average"*

If *student (x)*

age (y) ≤ 6

*/ * age can be 6 and more* /*

subject (x) = "URDU"

*/ * assessment of Urdu Quiz */*

Marks (x) ≥ 70

*/ * marks is 70 out of 100 * /*

Then

Announce <- "Level one and two is open and other level is locked"

*/ * Urdu book is open * /*

Advice <- "keep working hard"

End rule

Start rule *"Opening Of Level For Slow Learner"*

If *student (x)*

Age (x) ≤ 5

*/ * age can be 5 and more * /*

Class (x) = x

*/ * primary classes */*

Subject (x) = "URDU"

*/ *Assessment of Urdu Quiz */*

Marks(x) ≤ 40

*/ * marks is less than in 100 * /*

Then

Announce <- "Level one is open and other level is locked"

*/ * Level one urdu book is opened * /*

Advice <- "Need of a lot of work "

*/ * Teacher suggestion * /*

End rule

Start rule *"Calculate the Result"*

If *student (x)*

Class (x) = y

*/ * classes of primary level */*

Age (x) = ≤ 6

*/ * age can bi 6 and more * /*

Subject (z) = "URDU"

Submitted (x) = result of assessment

Then

Calculate (x) <- "Result of assessment"

Advice / Teacher suggestion */*

End rule

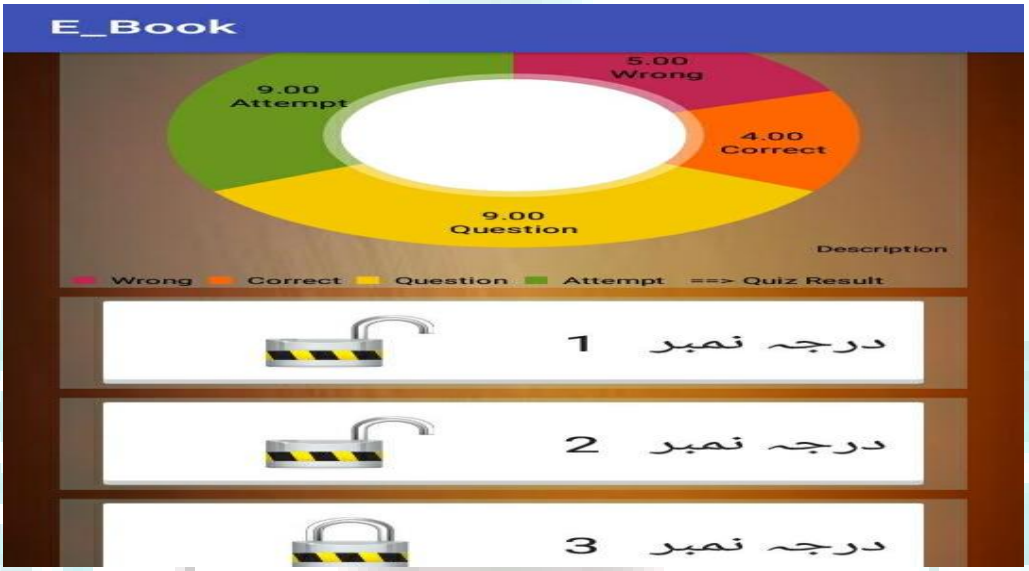


Figure 10: Statists of Student Feedback After Giving Exam by Using ISPL System

The performance of student's judgment is according to their capability source based on design rule based system. The ISPL system is fellow the process of artificial intelligence detect level of student and then recommend or unlock level for her. Suppose according to given figure student take test or get less than 2.5 marks out of 10 then the first basic level will be unlock and only students can communicated with first level rather than other. The level of recommendation show complexity and depends upon student caliber such as like game. The firs logical view based on test to decide according the judgment of system or student can directly access their desire class. If student feel difficulties in any level then they must be turn to learn basic level then he will be selected for next upcoming level

Table 9: Key Feature of running task

Sr.No	Feature
1	Easy to understand and track level of students, results performance and assessment
2	Complete Urdu alphabets (huroof-e-tahaji) for Class one students and also used in the combine form to make sentence
3	Positive and negative feedback mechanism used learn to enjoy with fun
4	Preschool students quickly learn like play game and unlock next session

5	Parent's kindergarten teacher can teach Urdu to preschool student easily by using ISPL System based on feedback mechanism
6	User friendly app provide facility to learn new skills all I-IV powerfully

3.11 Student's Interest And Development Of System

Touch devices are rapidly grown in the field of education, they are also finding to contact with early learner at level one to five. The children at early age used digital devices to interact with number activities such as games, entertainment and education. The usage of electronic devices observation comes from experienced person to judge children learning contribution [54]. With the development of technology used to show integration with number of fields to maintain positive feedback for young learner to enhance their capability to do effective work [55].

Apps provide the facility for children to educate them with very effective way. There are many educational application software are available in app stores for children, but the judgment for right one is difficult to content so the right app give number of benefits to enhance capability in the field of education. On other hand many mobile applications are used to facility early learn with slow speed after those children self-motivate to communicate with learning process. The smart devices give the number of facility based on different applications in education include.

Table 10: Student's Motivational Interest to Use ISPL System

Sr.No.	**Motivational interest**
1	Mode for learning based on their interest
2	Entertainment such as movies, games, songs
3	Availability of networks
4	Best Utilization of free time
5	Fun and informal interest
6	Homogenous and heterogeneous mode of learning
7	Clock availability
8	Model based learning

Current study show that the usage of smart devices influences the early children to communicate with education at very little age and develop numerous of skills to handle basic operations. Children get excitation to use these types of touch devices and joy a lot. Early age children show interest without noting the judgment of wrong and right especially in handle the smart devices. At the time of first stage parent and teachers is instrument to give right and wrong decision for their child to influence learning with very positively [56]. Kim and Smith proposed the developmental model for children to suggest that learning is based on robot such as smart devices is very easy for preschool children.

3.11.1 Flexibility Of ISPL System For Preschool Students

The children at the age of 3 to 5 year show interest with number of devices to spend more and more time and children treat with mobile as their own fiend and learn the language to enhance her capability with very playing manner. The children interact with number of entertainment material rather than traditional methods such as games, puzzles, dolls and counting and also communicate with technology on daily basis. The case study show the expertise of children by increasing the development of social media as along children skills also develop with the usage of digital tools in friendly environment. Primary learner call the technology to learn language by using number of facilitated tools based on their interest such as animals, fruits, shapes, objects, color etc. The learning software is developing according to need of need of children in the field of Urdu and English both. Some important apps are mention in table for primary school children that are already available in different app stores.

One of the educational aim is motivate the learner to designed which type of application can be used in learning to follow right way for Urdu. There is number of application existing in many languages but this application used to interact with Urdu. The vital goal of this research is to develop digital devices learning interference for primary class students based on android application that would make possibility for the students to learn by Urdu language to develop skill. As smart phones become common place to aces information and children use increasing to boost her learning skill. This app will allow, checking the caliber of individual students with their mental assessment based on intelligent interface that used to distinguish level of achievement based on learning capability. This application also used

for facilitates the students in Urdu language to taking quiz and refresh her knowledge within time to achieve target for next one to increase efficiency. The result of the competition or learning will be display after finishing the task under the history for future reference. As per new market segment the industry recognized the strong demand of user with minimum cost, so we are design this application can also be downloading free as open source to install everyone to interact with Urdu language to develop learning skills.

3.12: Database Of ISPL System (ISPL)

The Pakistan is a developing country in the field of education and has mother language Urdu with low literacy rate. Thus, they try to grow rapidly in the field of primary education among using multiple advance techniques and technology that used to influence students with highly motivated data [1].

The number of educational apps and electronic books in the form of apps are available in Google Play Store with general formats based on paid criteria and with less motivational views for children. The paid criteria provide restriction in development countries. The learner feel difficulties to learn the native language such as Urdu language in Pakistan, Therefore we are making intelligent interface totally open source with lite database for everyone to introduce learning in Urdu at primary school level such as basic alphabets, shapes, Islamic study, social study, general science, paly and stories. The application particularly useful for primary school education department to assessment the student IQ level and create a Urdu interface to interact with knowledge to achieve task based on already stored information in database. The Pakistan is a developing country in the field of education and has mother language Urdu with low literacy rate. Thus, they try to grow rapidly in the field of primary education among using multiple advance techniques and technology that used to influence students with highly motivated data. Moreover, the mother tongue provides important impact on education to increase children mental potential if stored information in database is authentic so valid information also give rise up socio economical interaction with number of problems to solve them in easy way but less concentrate of Urdu may not facilitate capability of doing task to achieve desire level.

```
    ///_____________________________________Data base
_____________________
    public void levelCheck(){
        level_count=0;
        correct=0;
        wrong=0;
        obj_ans=db.getAllData();
        for(int i=0;i<obj_ans.size();i++){
            if(obj_ans.get(i).getCorrect().equalsIgnoreCase("1")){
                level_count++;
            }
        }
        correct=(float) (level_count);
        wrong=(float)   obj_ans.size()-level_count;
        level_count=level_count*100/obj_ans.size();
    }
//_____________________________data base get data from level locker table
_______
    public void level_locker(){
        level_locker=0;
        level_locker=db.getOneRecord_LevelLocker("1");

        //_____________for level lock code_____________________________
        if(level_locker>=1){
            imageLevel_1.setImageResource(R.drawable.img_unlock1);
        }
        if(level_locker>=2){
            imageLevel_2.setImageResource(R.drawable.img_unlock1);
        }
        if(level_locker>=3){
            imageLevel_3.setImageResource(R.drawable.img_unlock1);
        }
```

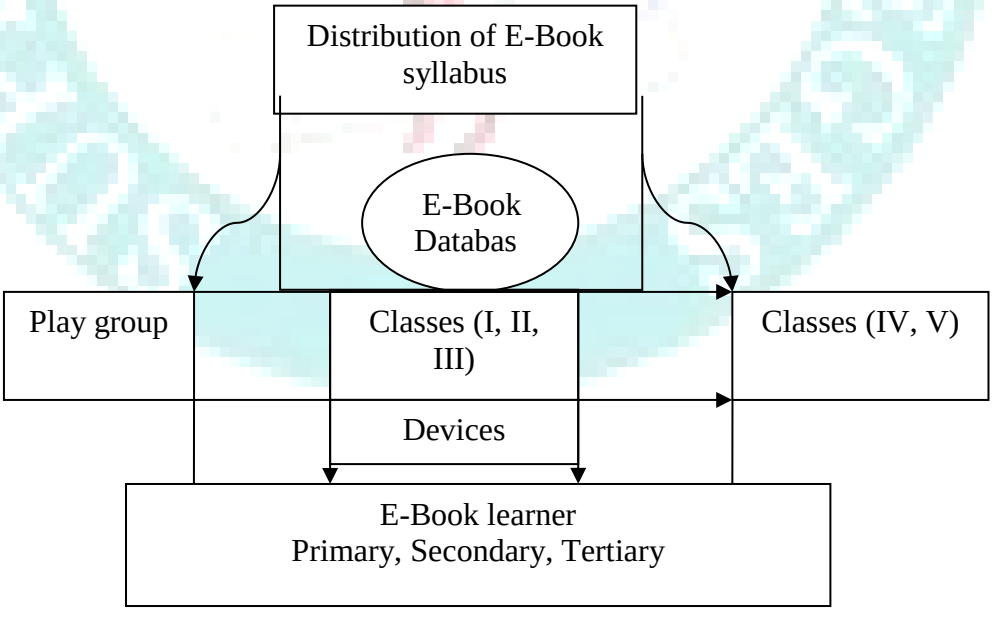


Figure 12: Show the Classification of Syllabus Store in ISPL System Database According to Curriculum of Punjab, Pakistan.

Table 11: Potential Feature of ISPL System

Sr.No.	Characteristics	Why this app would be a good attribute to implement
	Level of achievements	Allow for continuation in the field learning
	Categorization	Give the facility to communicate with multiclass as a beginner. Multi label option communicates to students based on their desired content selection.
	Feedback mechanisms for wrong and right attempt	Give the detail about positive and negative feedback, What they did wrong or right
	Comprehensive way to enhance the quality of education	How best way to answer the question Picture, symbol improve the capability of leaning
	Different links	Give importance to interact with number of facilitated databases as beginner
	Mix content	Mix content use to accommodate different level of literacy in school system
	State slandered	Specially focus on Pakistan curriculum
	Easy navigation	Simple interface to navigate children
	Linear Aid capability	Make the attention for central activity
	Trace progress	Explanation of grading mechanism, feedback

3.13 Research Based Model (RBM) And Hypothesis Development (HD) For ISPL System

Based on previous study and review of literature allow to emphasized on different factor of this application that effect on different users, number of different model used for this study depend upon following variables: app learner performance, application user satisfaction and app learner behavior. On the other hand there are several independent variables such as quality content mechanism, physical arrangement of application with layout, effective use of app and perceived usefulness of the android application. The four

case studies in this research are designed to explore student's capabilities in offline environment by doing Pedagogical survey.

3.13.1 ISPL System Testing and Evaluation Based On Hypothesis

3.13.2 Quality Content Mechanism

Learning quality content mechanism play a vital role for students to learn this app effectively based on number of feature such as motivation, understanding and attraction. The essential part of technology in the field of learning is highly appreciated to allow the user to contact with this type of application. Furthermore students effectively move toward learning based on attractive feature content and this type of facility help the learner to access specific information as par their need information [41]. This type of contact information can be in the form of division, formulas, outline, graphics and equations are used to inspire the different students to learn effectively [42]. In the addition the quality of content used to facilitate the experimental and objective views of user and their requirements. The quality of content also used for giving satisfactory view to cause user happy [42]. Hence we hypothesize the following information.

H1: *Quality content mechanisms use to enhance the capability of Urdu app learner satisfactions.*

H2:*Content quality mechanisms increase the behavior of Urdu learner.*

3.13.3 Physical Arrangement of System

The concepts of typographic allow the students to interact with this application. Number of user facilitates to incorporate with digital devices. The screens are vary according to electronic deceive such as smart tab and mobile phones display sizes are different therefore this application show flexibility to adjust with them according to their specification. The standard size flexibility divide in to number of content such as menu, navigation, quiz level used to show the attention with student to motivate for learning on their desire information [43]. Physical layout of the application based on different color show great effect on student behavior [44].

Physical arrangement of application show attraction based on their graphics to interact with user because number of learn want to make knowledge how we can learn application before going main purpose so screen consistency allow the learner to use very handy. The color feature also motivate the user to interact purposefully to do main task as like if we cleared a color red then it is a massage that task is a finish so colored layout design influence the learner behavior in positive way[45].

H3: *ISPL System physical layout enhance the Urdu learner behavior .*

H4: *System design layouts give the capability to interact effectively to learn Urdu .*

3.13.4 Simple Use of ISPL System

The new technologies influence the learner to interact with number of application based personal attitude toward using that technology on their desire information. The all physical arrangement of this application gains the concentration of naive user to use very easy. On the other hand if learner feels difficulties to use any application so may they want to leave it and try any other one that offer easy layout to get information. The user friendly environment is given the important to judge the quality of application measure system. Therefore the ease use of application gives positive feedback and measure the behavior of learner [46].

H5: *simple use of application enhance the behavior of Urdu learner*

3.13.5 ISPL System used to recognized user benefits

The use of application enhances the performance and confidence of user to interact with technology to learn many other advance features. The usefulness of ISPL System gives the huge impact on students to increase the capability of learning, performance and their satisfactions. This type of feature also helps to communicate with many other applications.

H6: *Recognition of user benefits enhance the performance of students .*

CHAPTER O4
FINDINGS AND RESULTS

In order to our model and survey reports used the ISPL system to judge the different factors of students understanding, performance and behavior in depth based on different learning applications; we proposed to judge an observation and experiment was carried out by using ISPL System. The number of questions was made in the area of Urdu language and experiments were performed on 30 students of the primary school in grade one to five and same 30 instructor to collect results. The relevance of the questions give satisfactory result to enhance Urdu learning skills, motivation, performance and behavior based on clarity of ideas.

The research parameter used to detect connection between students, and ISPL System. The mechanism of variable used in this research are : ISPL System learner performance, ISPL System learner behavior, ISPL System learner motivation, ISPL System learner satisfaction, ISPL System perceived usefulness, Quality content mechanism , Physical arrangement of application and Simple use of application. The numerous of generate results and facility are mention in the form of table after completing surveys.

Table 12: ISPL System Interaction With Students And Summery Of Measurement

Nature of variable	**Summary of measurement**
ISPL system learner performance	1. When learner used ISPL system, students' performance and skills are increased.
	2. ISPL System (ISPL system) used to increase the understanding of user for achieves class work at primary level.
	3. Application allows the students to perform learning task.
	4. ISPL System ISPL System used to achieve the desire grade for primary level students.

ISPL System (ISPL system) learner behavior	1. E—Book (ISPL system) used to influence the students to use this application as a part of study.
	2. When student use ISPL System frequently in all class in primary level then feel satisfied to get desire information.
	3. Students enjoying using ISPL System (ISPL system) in the field of Urdu learning.
	4. Students will not hesitate to start the ISPL System (ISPL system) anywhere.
ISPL System (ISPL system) learner motivation	1. Students satisfied to use ISPL System (ISPL system) as much as possible to complete syllabus
	2. This system also used to give traditional classroom facilities
	3. ISPL System used to facilitate students and increase their skills to achieve higher goal
	4. ISPL System used to hire the selective work for students, which they are most interested
ISPL System (ISPL system) learner satisfaction	1. All students are satisfied to use this application to learn in Urdu language
	2. ISPL System application give all type of facilities to students as per their level
	3. When Students use ISPL System (ISPL system) also recommend the other students to use this.

ISPL System (ISPL system) perceived usefulness	1. Using ISPL System (ISPL system) would improve the learning capabilities of students.
	2. ISPL System (ISPL system) used to enhanced students' academic performance and their grade at primary school level.
	3. This system used to enhance the student productivity within short time.
	4. ISPL System (ISPL system) provides the facility for teaching and learning.
Quality content mechanism of ISPL system	1. ISPL System (ISPL system) display all the button in color form that used to motivate the students for special task as they need, such as quiz, test, reading paragraphs and level of complexity.
	2. Numerous of students are satisfied to use this app.
	3. ISPL System (ISPL system) provides straightforward content for primary students to achieve desire goal.
	4. Facilities readable content for students
	5. Ease to use.
	6. Performance of feedback working is very quick to response.
	1. ISPL System (ISPL system) adjusts in all smart phones and laptop due to screen flexibility

Physical arrangement of (ISPL system)	2. ISPL System (ISPL system) support both landscape and portrait mode.
	3. This system get familiarity very easily in user based on layout design
	4. Students feel happy to use ISPL system in the area of Urdu.
Simple use of (ISPL system)	1. ISPL System (ISPL system) is user friendly.
	2. All buttons are separately used to get all they desire information.
	3. Navigation is used to facilitate the students in very friendly mode.

We used the ISPL system to check the caliber of students after taking trial to communicate with syllabus and students show interest to learn more. According to students levels of the class one to two feel difficulties to do test due to restriction of their expertise but also they feel comfortable to learn more actively. On the other hand reaming all level students show great interest to use the ISPL System and perform highly achievable results and desire to use this ISPL System for next exam preparation.

Based on previous study and review of literature allow to emphasized on different factor of this ISPL system that effect on different users, number of different model used for this study depend upon following variables: app learner performance, application user satisfaction and app learner behavior. On the other hand there are several independent variables such as quality content mechanism, physical arrangement of application with layout, effective use of app and perceived usefulness of the android application. The five case studies in this research are designed to explore student's capabilities in offline environment by doing Pedagogical survey. The learning quality content mechanism play a vital role for students to learn via ISLP system effectively based on number of feature such as functionality, usability, performance, motivation and behavior. The essential part of

technology in the field of learning is highly appreciated to allow the user to contact with this type of system. Furthermore students effectively move toward learning based on attractive feature content and this type of facility help the learner to access specific information as par their need data. This type of quality information distributed in the form of division, formulas, outline, graphics and equations used to inspire the different students to learn effectively. In addition the quality of content used to facilitate the experimental and objective views of user and their requirements. The content quality used for giving satisfactory views. Hence we hypothesize the following information label with Category of variable, Student Name, Class, Age, School name and every student results.

Table 13: Student results

Sr.no		**Category of variable**	**Student Name**	**Class**	**Age In year**	**School name**	**Results**	**%**
1		Parameter name	Ayesha	Five	12	GGMPS		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					.98	
	4	Motivation					.80	
	5	Behavior					1	
		Total					4.78	95.6
2		Parameter name	Amna	Five	13.5	GGMPS		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					.80	
	4	Motivation					1	
	5	Behavior					.76	
		Total					4.56	91.2
3		Parameter name	Musfeera	Five	12.4	GGMPS		

	1	Functionality					.89	
	2	Usability					1	
	3	Performance					.97	
	4	Motivation					.78	
	5	Behavior					1	
		Total					4.64	92.8
4		Parameter name	Sobia	Five	13	GGMPS		
		Functionality					1	
		Usability					.87	
		Performance					.90	
		Motivation					1	
		Behavior					.87	
		Total					4.46	92.8
5		Parameter name	Rida Ahmad	Five	14	GGMPS		
		Functionality					1	
		Usability					1	
		Performance					1	
		Motivation					.90	
		Behavior					.95	
		Total					4.85	97
6		Parameter name	Ahmad	Four	9.5	GBPS-MT		
		Functionality					.90	
		Usability					.85	
		Performance					1	
		Motivation					1	
		Behavior					.90	
		Total					4.65	93
7		Parameter name	Adeel Ahmad	Four	10	GBPS-MT		

		Functionality					1	
		Usability					1	
		Performance					.90	
		Motivation					.75	
		Behavior					1	
		Total					4.65	93
8		Parameter name	Mirza Riaz	Four	11	GBPS-MT		
		Functionality					.90	
		Usability					.87	
		Performance					1	
		Motivation					.80	
		Behavior					.79	
		Total					4.49	89.8
9		Parameter name	Sultan Riaz	Four	10.5	GBPS-MT		
		Functionality					1	
		Usability					1	
		Performance					1	
		Motivation					.90	
		Behavior					.95	
		Total					4.85	97
10		Parameter name	Imran Ahamed	Four	10	GBPS-MT		
		Functionality					1	
		Usability					1	
		Performance					.80	
		Motivation					.78	
		Behavior					.90	
		Total					4.48	89.6
11		Parameter name	Rida	Five	11	GGPSIT		
		Functionality					.97	

		Usability					.90	
		Performance					1	
		Motivation					.86	
		Behavior					1	
		Total					4.73	94.6
12		Parameter name	Sonia	Five	10.5	GGPSIT		
		Functionality					.78	
		Usability					.80	
		Performance					1	
		Motivation					.80	
		Behavior					1	
		Total					4.38	87.6
13		Parameter name	Saima	Four	7.8	GGPSIT		
		Functionality					1	
		Usability					1	
		Performance					.87	
		Motivation					.89	
		Behavior					.90	
		Total					4.66	93.2
14		Parameter name	Shanaz	Four	7	GGPSIT		
		Functionality					.98	
		Usability					.76	
		Performance					.87	
		Motivation					1	
		Behavior					1	
		Total					4.61	92.2
15		Parameter name	Ruksana	Three	6.5	GGPSIT		
		Functionality					.98	
		Usability					.99	

		Performance					1	
		Motivation					1	
		Behavior					1	
		Total					4.97	99.4
16		Parameter name	Nida	Three	6	GGPSIT		
		Functionality					1	
		Usability					1	
		Performance					.87	
		Motivation					.98	
		Behavior					.90	
							4.75	95
17		Parameter name	Lubna	Two	5	GGPSIT		
		Functionality					.90	
		Usability					1	
		Performance					1	
		Motivation					.87	
		Behavior					.80	
		Total					4.57	91.4
18		Parameter name	Rabia	Two	4	GGPSIT		
		Functionality					.90	
		Usability					.60	
		Performance					.80	
		Motivation					1	
		Behavior					.70	
		Total					4	80
19		Parameter name	Mawish	Two	4.5	GGPSIT		
		Functionality					1	
		Usability					.90	
		Performance					.67	

		Motivation					.87	
		Behavior					.90	
		Total					4.34	86.8
20		Parameter name	Saba	One	3.5	GGPSIT		
		Functionality					.89	
		Usability					.80	
		Performance					.90	
		Motivation					.87	
		Behavior					1	
		Total					4.46	89.2
21		Parameter name	Fouzia	One	3	GGPSIT		
		Functionality					1	
		Usability					.87	
		Performance					.90	
		Motivation					.87	
		Behavior					.90	
		Total					4.54	90.8
22		Parameter name	Siam	Five	12.5	GBPSIT		
		Functionality					.90	
		Usability					.60	
		Performance					.76	
		Motivation					.78	
		Behavior					1	
		Total					4.04	80.8
23		Parameter name	Kamran	Five	11.8	GBPSIT		
		Functionality					.98	
		Usability					.78	
		Performance					1	

		Motivation					.90	
		Behavior					1	
		Total					4.66	93.2
24		Parameter name	Kamal	Four	9.2	GBPSIT		
		Functionality					.90	
		Usability					.87	
		Performance					.87	
		Motivation					1	
		Behavior					1	
		Total					4.64	92.8
25		Parameter name	Taimoor	Four	8.5	GBPSIT		
		Functionality					1	
		Usability					1	
		Performance					.98	
		Motivation					.67	
		Behavior					.59	
		Total					4.24	84.8
26		Parameter name	Abbas	Four	9	GBPSIT		
		Functionality					.78	
		Usability					.65	
		Performance					.89	
		Motivation					.67	
		Behavior					.48	
		Total					3.47	69.4
27		Parameter name	Iqbal	Three	7	GBPSIT		
		Functionality					.89	
		Usability					.87	
		Performance					.67	
		Motivation					.78	
		Behavior					.98	

		Total					4.19	83.8
28		Parameter name	Ali	Three	7.8	GBPSIT		
		Functionality					.76	
		Usability					.98	
		Performance					.78	
		Motivation					.88	
		Behavior					.67	
		Total					4.07	81.4
29		Parameter name	Mubashir	Two	5.6	GBPSIT		
		Functionality					.67	
		Usability					.76	
		Performance					.98	
		Motivation					.76	
		Behavior					.67	
		Total					3.84	76.8
30		Parameter name	Imran Zafar	One	3.5	GBPSIT		
		Functionality					.76	
		Usability					.67	
		Performance					.87	
		Motivation					.98	
		Behavior					.67	
		Total					3.95	79

After survey we predict the results of individual Category of variable like functionality, usability, performance, motivation and behavior that was also labeled with Student Name, Class, Age, School name and student results and we formulate total learner (students) system accuracy 88.23%.

Table 14: Individual Variables Result

Paramete	**Functionality**	**Usability**	**Performance**	**Motivatio**	**Behavio**

r name				**n**	**r**
Sr.no.	1 Results	2 Results	3 Results	4 Results	5 Results
1	1	1	0.98	0.80	1
2	1	1	0.80	1	0.76
3	0.89	1	0.97	0.78	1
4	1	0.87	0.90	1	0.87
5	1	1	1	0.90	0.95
6	0.90	0.85	1	1	0.90
7	1	1	0.90	0.75	1
8	0.90	0.87	1	0.80	0.79
9	1	1	1	0.90	0.95
10	1	1	0.80	0.78	0.90
11	0.97	0.90	1	0.86	1
12	78	0.80	1	0.80	1
13	1	1	0.87	0.89	0.90
14	0.98	0.76	0.87	1	1
15	098	0.99	1	1	1
16	1	1	0.87	0.98	0.90
17	0.90	1	1	0.87	0.80
18	0.90	0.60	0.80	1	0.70
19	1	0.90	0.67	0.87	0.90
20	0.89	0.80	0.90	0.87	1
21	1	0.87	0.90	0.87	0.90
22	0.90	0.60	0.76	0.78	1
23	0.98	0.78	1	0.90	1
24	0.90	0.87	0.87	1	1
25	1	1	0.98	0.67	0.59
26	0.78	0.65	0.89	0.67	0.48
27	0.89	0.87	0.67	0.78	0.98
28	0.76	0.98	0.78	0.88	0.67
29	0.67	0.76	0.98	0.76	0.67
30	0.76	0.67	0.87	0.98	0.67
Total	25.94	26.39	27.03	26.40	26.28
Percentage	86.47	87.97	91.10	88.00	87.60

Sum of All value	86.47+87.97+91.10+88.00+87.60=441.14	Formula	All Results %
Mean of All value in %	$\frac{86.47 + 87.97 + 91.10 + 88.00 + 87.60}{500}$	$\frac{441.14}{500}$	88.23

Instructor and Teacher Performa

Survey based Performa after using ISPL system for Class Teacher/ instructor also consist of instructor name, age, teaching of current class, school name and results.

Table 15: individual variables for instructors

Sr.no		Category of variable	Name	Class instructor	Age In year	School name	Results	%
1		Parameter name	Miss Sana	Five	26	GGMPS		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.87	
	4	Motivation					1	
	5	Behavior					1	
		Total					4.87	97.4
2		Parameter name	Miss Ayesha	Three	30	GGMPS		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					1	
	4	Motivation					0.90	
	5	Behavior					0.95	
		Total					4.85	97
3		Parameter name	Miss Razia	Five	40	GGMPS		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.95	
	4	Motivation					0.80	
	5	Behavior					1	
		Total					4.75	95
4		Parameter name	Miss Qudsia	one	38	GGMPS		

	1	Functionality					0.90	
	2	Usability					1	
	3	Performance					0.85	
	4	Motivation					1	
	5	Behavior					1	
		Total					4.75	95
5		Parameter name	Miss Tahira	Two	27	GGMPS		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					1	
	4	Motivation					0.70	
	5	Behavior					1	
		Total					4.70	94
6		Parameter name	Miss Robina	Three	31	GGMPS		
	1	Functionality					0.80	
	2	Usability					0.80	
	3	Performance					1	
	4	Motivation					0.90	
	5	Behavior					1	
		Total					4.50	90
7		Parameter name	Mr. Zahid	Five	40	GBPSIT		
	1	Functionality					0.90	
	2	Usability					1	
	3	Performance					1	
	4	Motivation					1	
	5	Behavior					0.80	

		Total					4.70	94
8		Parameter name	Mr. Zafar	Five	30	GBPSIT		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					1	
	4	Motivation					1	
	5	Behavior					1	
		Total					5	100
9		Parameter name	Mr. Ameen	Four	28	GBPSIT		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.80	
	4	Motivation					0.60	
	5	Behavior					1	
		Total					4.40	88
10		Parameter name	Mr. Ahamed	three	35	GBPSIT		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.70	
	4	Motivation					0.90	
	5	Behavior					1	
		Total					4.60	92
11		Parameter name	Mr. Adeel	two	24	GBPSIT		
	1	Functionality					1	
	2	Usability					1	

	3	Performance					0.60	
	4	Motivation					0.70	
	5	Behavior					1	
		Total					4.30	86
12		Parameter name	Mr.Zahid	one	55	GBPSIT		
	1	Functionality					0.80	
	2	Usability					1	
	3	Performance					0.70	
	4	Motivation					0.80	
	5	Behavior					1	
		Total					4.20	84
13		Parameter name	Mr. Imran	Five	27	GBPSMT		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					1	
	4	Motivation					0.90	
	5	Behavior					1	
		Total					4.90	98
14		Parameter name	Mr.Rehan	Five	40	GBPSMT		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.80	
	4	Motivation					1	
	5	Behavior					0.90	
		Total					4.70	94
15		Parameter name	Mr.Zeshan	Four	40	GBPSMT		

	1	Functionality					1	
	2	Usability					0.75	
	3	Performance					0.85	
	4	Motivation					0.90	
	5	Behavior					1	
		Total					4.50	90
16		Parameter name	MR. Qadir	Three	30	GBPSMT		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					1	
	4	Motivation					0.90	
	5	Behavior					1	
		Total					4.90	90
17		Parameter name	MR. Nasir	Two	34	GBPSMT		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.80	
	4	Motivation					0.80	
	5	Behavior					0.90	
		Total					4.50	90
18		Parameter name	MR. Nayyer	One	23	GBPSMT		
	1	Functionality					0.80	
	2	Usability					0.90	
	3	Performance					0.95	
	4	Motivation					1	

	5	Behavior					0.95	
		Total					4.60	92
19		Parameter name	Miss Zarish	Five	50	GGPSIT		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.80	
	4	Motivation					0.90	
	5	Behavior					1	
		Total					4.70	94
20		Parameter name	Miss Tahrem	Five	34	GGPSIT		
	1	Functionality					1	
	2	Usability					0.80	
	3	Performance					0.90	
	4	Motivation					0.70	
	5	Behavior					1	
		Total					4.40	88
21		Parameter name	Miss Asia	Four	45	GGPSIT		
	1	Functionality					0.90	
	2	Usability					0.70	
	3	Performance					1	
	4	Motivation					0.80	
	5	Behavior					1	
		Total					4.40	88
22		Parameter name	Miss Irfan	Three	34	GGPSIT		
	1	Functionality					1	

	2	Usability					1	
	3	Performance					0.60	
	4	Motivation					1	
	5	Behavior					1	
		Total					4.40	88
23		Parameter name	Miss Mariam	Two	21	GGPSIT		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.90	
	4	Motivation					0.80	
	5	Behavior					1	
		Total					4.70	94
24		Parameter name	Miss Iqra	One	23	GGPSIT		
	1	Functionality					0.90	
	2	Usability					1	
	3	Performance					0.80	
	4	Motivation					1	
	5	Behavior					1	
		Total					7.70	94
25		Parameter name	Miss Rashida	One	45	GGPSIT		
	1	Functionality					0.70	
	2	Usability					0.90	
	3	Performance					0.80	
	4	Motivation					0.95	
	5	Behavior					0.95	
		Total					4.30	86

26		Parameter name	Mr. Ali	Five	34	GBPSI		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.80	
	4	Motivation					0.80	
	5	Behavior					0.90	
		Total					4.50	90
27		Parameter name	Mr. Farooq	Four	45	GBPSI		
	1	Functionality					0.90	
	2	Usability					0.80	
	3	Performance					0.80	
	4	Motivation					1	
	5	Behavior					0.90	
		Total					4.40	88
28		Parameter name	Mr. Nadeem	Three	41	GBPSI		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					0.90	
	4	Motivation					0.80	
	5	Behavior					1	
		Total					4.70	94
29		Parameter name	Mr. Zaman	Two	36	GBPSI		
	1	Functionality					1	
	2	Usability					1	
	3	Performance					1	

	4	Motivation					0.90	
	5	Behavior					0.75	
		Total					4.65	93
30		Parameter name	Mr. Amjid	One	23	GBPSI		
	1	Functionality					1	
	2	Usability					0.90	
	3	Performance					0.80	
	4	Motivation					0.95	
	5	Behavior					0.85	
		Total					4.50	90

After survey we predict the results of individual Category of variable like functionality, usability, performance, motivation and behavior that was also labeled with Teacher/instructor Name, Class of teaching, Age, School name and results and we formulate total Teacher/instructor system accuracy 91..578%.

Table 16: Individual variable results

Parameter name	**Functionality**	**Usability**	**Performance**	**Motivation**	**Behavior**
Sr.no.	1 Results	2 Results	3 Results	4 Results	5 Results
1	1	1	0.87	1	1
2	1	1	1	0.90	0.95
3	1	1	0.95	0.80	1
4	0.90	1	0.85	1	1
5	1	1	1	0.70	1
6	0.80	0.80	1	0.90	1
7	0.90	1	1	1	0.80
8	1	1	1	1	1
9	1	1	0.80	0.60	1
10	1	1	0.70	0.90	1
11	1	1	0.60	0.70	1
12	0.80	1	0.70	0.80	1
13	1	1	1	0.90	1
14	1	1	0.80	0.90	1
15	1	0.75	0.85	0.90	1

16	1	1	1	0.90	1
17	1	1	0.80	0.80	0.90
18	0.80	0.90	0.95	1	0.95
19	1	1	0.80	0.90	1
20	1	0.80	0.90	0.70	1
21	0.90	0.70	1	0.80	1
22	1	1	0.60	1	1
23	1	1	0.90	0.80	1
24	0.90	1	0.80	1	1
25	0.70	0.90	0.80	0.95	0.95
26	1	1	0.80	0.80	0.90
27	0.90	0.80	0.80	1	0.90
28	1	1	0.90	0.80	1
29	1	1	1	0.90	0.75
30	1	0.90	0.80	0.95	0.85
Total	28.6	28.55	25.97	25.30	28.95
Percentage	95.33%	95.16%	86.57%	84.33%	96.50

Sum of All value	95.33+95.16+86.57+84.33+96.50= 457.89	Formula	All Result %
Mean of All value in %	$\frac{95.33 + 95.16 + 86.57 + 84.33 + 96.50}{500}$	$\frac{457.89}{500}$	91.578

Scale to measure the users' acceptability

The Weighted mean range come from survey based results and tell about satisfaction of user(Teacher, students and parents) acceptance such as Strongly Agree, Agree, Moderately Agree, Disagree and Strongly Disagree

Table 17: Scale for users' acceptability

Weighted mean range	Interpretation
25.30-30.00 (86-100%)	Strongly Agree(SA)
15.50-25.29 (70-85.8%)	Agree(A)
10.7-15.49 (54-69.8%)	Moderately Agree (MA)

5.90-10.69 (38-53.8%)	Disagree (D)
1.00-5.89 (20-37.8%)	Strongly Disagree (SD)

User acceptance test for teacher and student

Ser.no	**Categories variable Total=5**	**Teacher mean** Total mean 30=100% overall mean results 27.474= 91.58%			**Learner mean** Total mean 30= 100% overall mean of results is 26.408= 88.23%		**Description** Strongly agree (SA) Over all accuracy of the ISPL system 89.905%
		Mean	Formula	Value in Percentage	Mean	Value	
1	Functionality	25.94	25.94/30*100	86.47%	28.60	95.33%	**SA**
2	Usability	26.39	26.39/30*100	87.97%	28.55	95.16%	**SA**
3	Performance	27.03	27.03/30*100	91.10%	25.97	86.57%	**SA**
4	Motivation	26.40	26.40/30*100	88.00%	25.3	84.33%	**SA**
5	Behavior	26.28	26.28/30*100	87.60%	28.95	96.50%	**SA**

Based on the survey conducted, the system garnered an overall mean of 91.58 and 88.23 which means that the teachers and learner (Students) strongly agree (SA) on the functionality, motivation, behaviors, usability, and performance design of the system. The overall accuracy of the ISPL system is 89.905% fall in strongly agrees results.

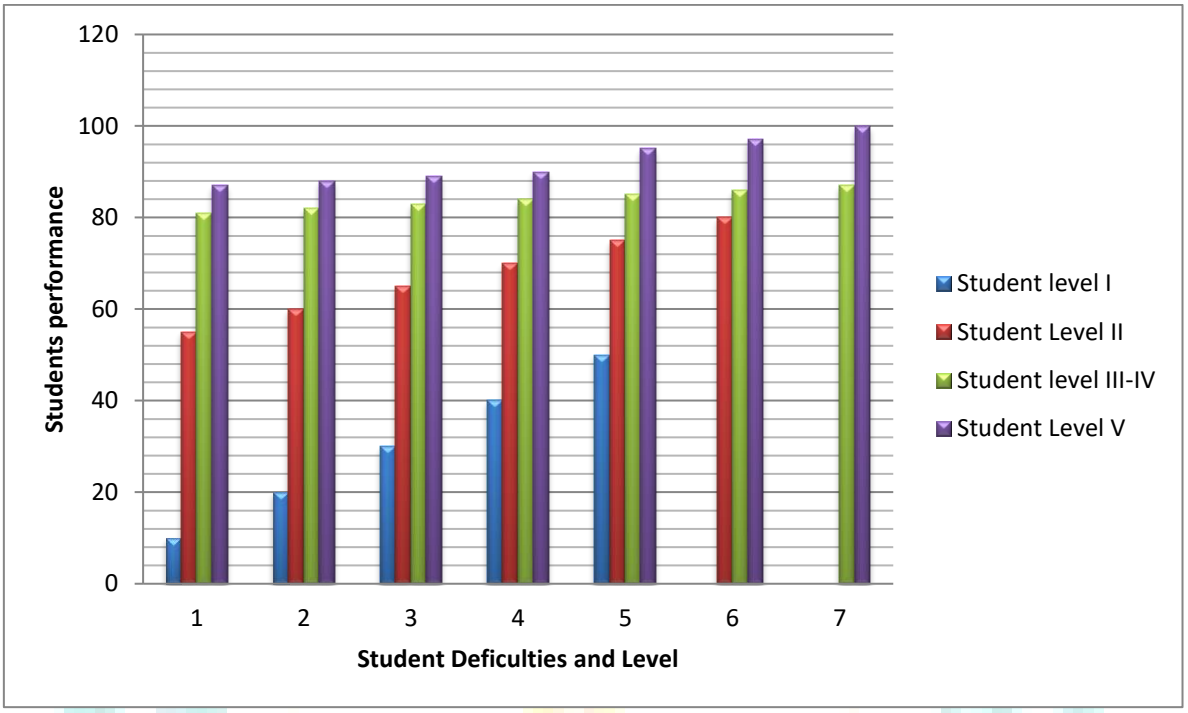


Figure 13: Results And Interest Of Multilevel Class I to V

The student's performance in primary school level we proposed to judge with numerous of parameters. Our parameters are consisting of: Student learning motivation and attitude, Student learning characteristics, Student behavior performance in class, Student creativity and motivation of ideas and student leadership quality. Each form is fill after using ISPL System and ISPL System trail was consist of four month at primary school Lahore with Punjab curriculum. The students' performance results are shown in table with seating parameters.

Table 18: Student Performance Assessment Result's After Using ISPL System

Student Learning Motivation And Attitude					
	Always	**Often**	**Some times**	**Seldom**	**No result**
1. What student able to focus on a topic	Yes				

(due to only learning seating in ISPL system)					
2. Student learn autonomously and independently	Yes				
3. Sustained interest in certain subjects or issues		Yes			
4. Persistent and refuse to give up when facing difficulties or failure				Yes	
Student Learning characteristics					
	Always	**Often**	**Some times**	**Seldom**	**No result**
1. Seek the “how's” and “whys” rather than taking them for granted	Yes				
2. Able to understand diagrams	Yes				
3. Able to understand the logical relationship between similar diagrams		Yes			
4. Able to appreciate the beauty of drawings and create different diagrams	Yes				
Student Behavior Performance In Class					
	Always	**Often**	**Some times**	**Seldom**	**No result**

1. Study or participate in activities in accordance with instructions	Yes				
2. Show courage to ask questions		Yes			
3. Able to concentrate on his/her study	Yes				
4. Able to cooperate with classmates	Yes				
5. Able to express his/her emotions effectively	Yes				
6. Able to listen to others patiently	Yes				
Student Creativity And Motivation Of Ideas					
	Always	**Often**	**Some times**	**Seldom**	**No result**
1. Demonstrate a keen sense of humor	Yes				
2. Willing to attempt, to make assumption and to prove	Yes				
3. Refuse to accept other people's views without reasons, not afraid of being unique and courageous to express his/her own opinion		Yes			
4. Like to think in different angles		Yes			
5. Able to suggest ideas and solutions to various problems		Yes			

Student Leadership Quality					
	Always	**Often**	**Some times**	**Seldom**	**No result**
1. With a strong sense of responsibility and can be entrusted with tasks		Yes			
2. Like to participate in group activities	Yes				
3. Able to cooperate with others	Yes				
4. Able to communicate effectively with others and express him/herself clearly	Yes				
5. Able to understand other people's feelings and needs		Yes			
6. Show leadership in various activities.	Yes				

With the help of ISPL System students feel free to achieve desire goal step by step and show interest to communicate with higher level. The usage of this application following the learning trend and decrease the difficulties day by day and result students motivate actively

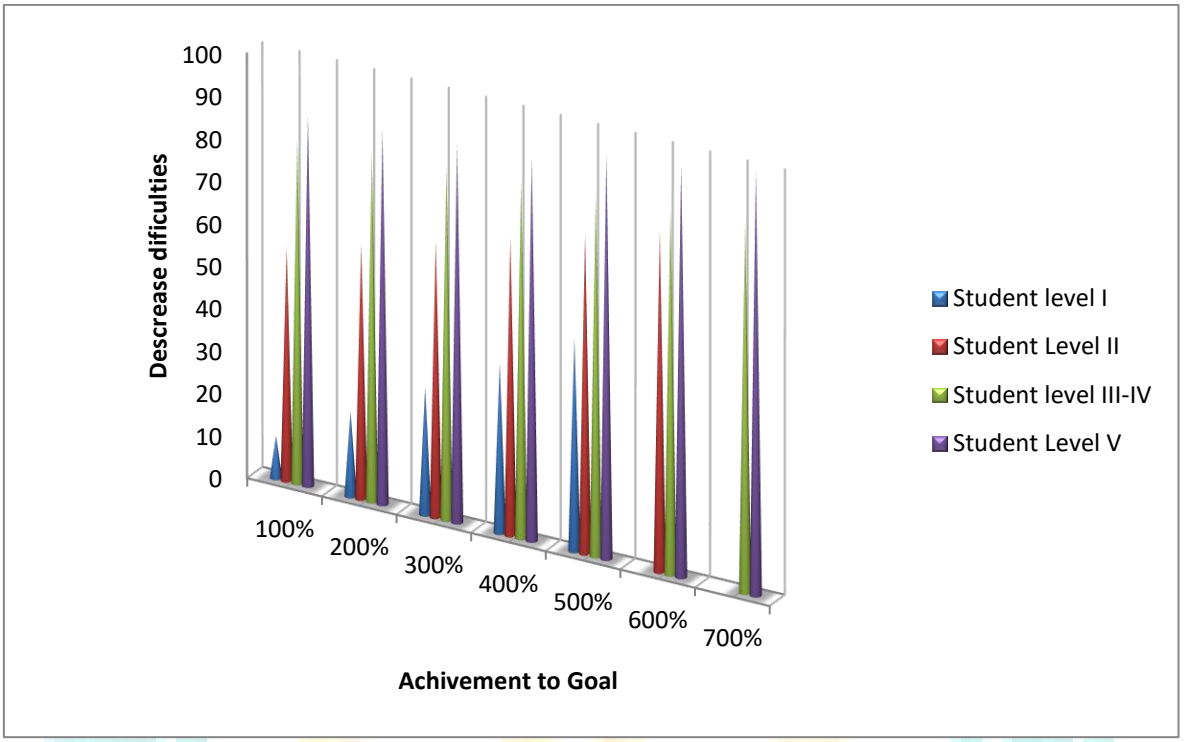


Figure 14: Student difficulties, achievements and their assessment results after using ISPL System

In above diagram the motivation of student increase from one class to five and every coming class at primary level show more interest to interact with daily life challenges or with given curriculum according to Punjab for exam. The Pakistan is a developing country in the field of education and has mother language Urdu with low literacy rate. Thus, they try to grow rapidly in the field of primary education among using multiple advance techniques and technology that used to influence students with highly motivated data.

```
public class Main_Activity extends AppCompatActivity implements
SwipeRefreshLayout.OnRefreshListener{

    SwipeRefreshLayout swipeRefreshLayout;

    //_____________only for percentage Graph_____________
    PieChart pieChart ;
    ArrayList<Entry> entries ;
    ArrayList<String> PieEntryLabels ;
    PieDataSet pieDataSet ;
    PieData pieData ;

    float correct=0;
    float wrong=0;
    //_____________End for percentage Graph_____________
   private DatabaseHelper db=new DatabaseHelper(this);
    private static ArrayList<Quiz_1> obj_ans=new ArrayList<>();
    private ImageView setting;
    private ImageView help;
    private ImageView imageLevel_1;
    private ImageView imageLevel_2;
    private ImageView imageLevel_3;

    private LinearLayout linearLayout_level_1;
    private LinearLayout linearLayout_level_2;
    private LinearLayout linearLayout_level_3;
    private int level_count=0;
    private int level_locker=0;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main_activity);


swipeRefreshLayout=(SwipeRefreshLayout)findViewById(R.id.swiperefresh);

        linearLayout_level_1=(LinearLayout)findViewById(R.id.level_1);
        linearLayout_level_2=(LinearLayout)findViewById(R.id.level_2);
        linearLayout_level_3=(LinearLayout)findViewById(R.id.level_3);

        imageLevel_1=(ImageView)findViewById(R.id.image_level_1);
        imageLevel_2=(ImageView)findViewById(R.id.image_level_2);
        imageLevel_3=(ImageView)findViewById(R.id.image_level_3);

        setting=(ImageView)findViewById(R.id.setting);
        help=(ImageView)findViewById(R.id.help);

        levelCheck();
        level_locker();

        pieChartMethod();
        swipeRefreshLayout.setOnRefreshListener(this);
```

Figure 15: Used to Show The Main Activity In Program Allow The Desire Interaction.

The performance of student's judgment is according to their capability source by ISPL System based. The ISPL System artificial intelligence is used to detect level of student and then recommend or unlock level for her. Suppose according to given figure student take

test or get less than 2.5 marks out of 10 then the first basic level will be unlock and only students can communicated with first level rather than other levels.

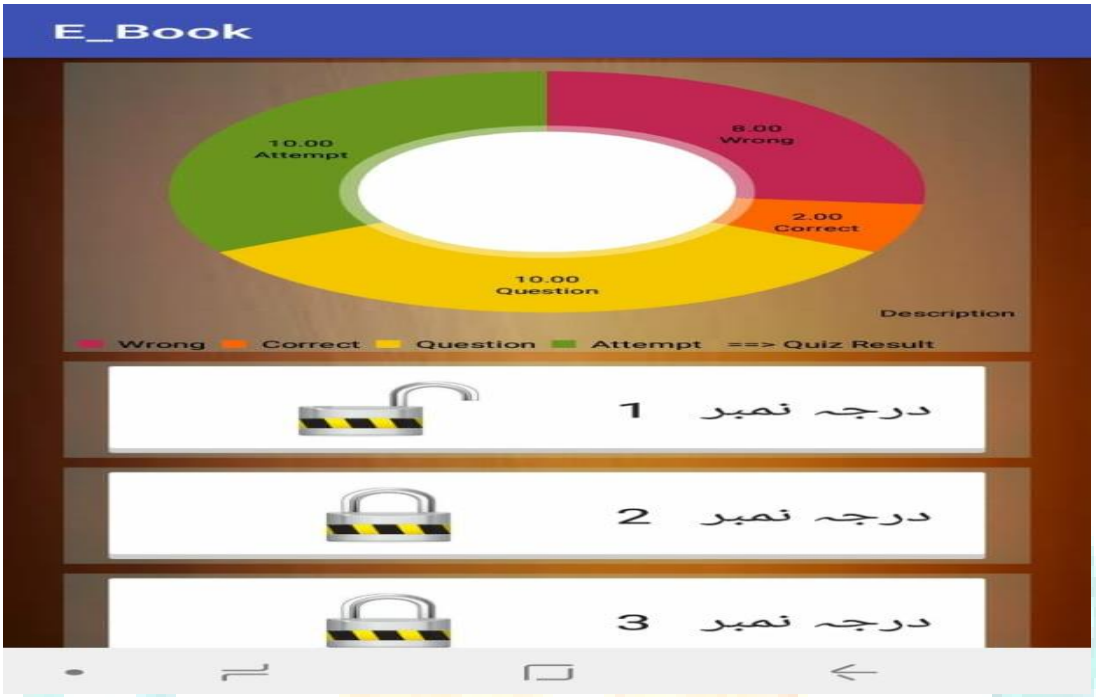


Figure 16: Show The Test Performance Of Students After Taking Quiz

The level of recommendation depends upon student caliber such as like game. The firs logical view based on test to decide according the judgment of system or student can directly access their desire class. If student feel difficulties in any level then they must be turn to learn basic level then he will be selected for next upcoming level. With the help of ISPL System students feel free to achieve desire goal step by step and show interest to communicate with higher level. The usage of this application following the learning trend and decrease the difficulties day by day and result students motivate actively

Table 19: The Communication of Students with ISPL System Based on Their Caliber to Go Next Level.

Quiz Sequence	Student name	Class	Total Marks	Obtain Marks	Level for unlocking	Upcoming level
Quiz 1	Humira	I	10	8.5	2	3-5
Quiz 2	Shazia	I	10	2.5	1	2
Quiz 3	Amna	II	20	18	2	3-5

Quiz 4	Imran	II	20	15	2	3-4
Quiz 5	Salman	III	30	15	1	2-3
Quiz 6	Sana	III	30	25	2	3-4
Quiz 7	Sidra	IV	40	40	2	3-5
Quiz 8	Ali	IV	40	35	2	3-4
Quiz 9	Zafar	V	50	15	1	2-3
Quiz 10	Ahmad	V	50	45	2	3-5

The above mention table used to show the communication of students with ISPL System based on the student class or capability and unlock next upcoming session. For example humara get 8.5 marks out of ten then the unlock next session two and they can also go to take quiz further three to five but on the other hand Shazia get 2.5 so she cannot unlock next session so she will also first learn clearly session one and then cross to access of session two. Furthermore such type of artificial intelligence interface is used in ISPL System to access all the level to decide system recommendation.

The below figure generated from such data represent the access of data in the form of graph, in which Shazia get very low marks and then she can't open any next or upcoming level .

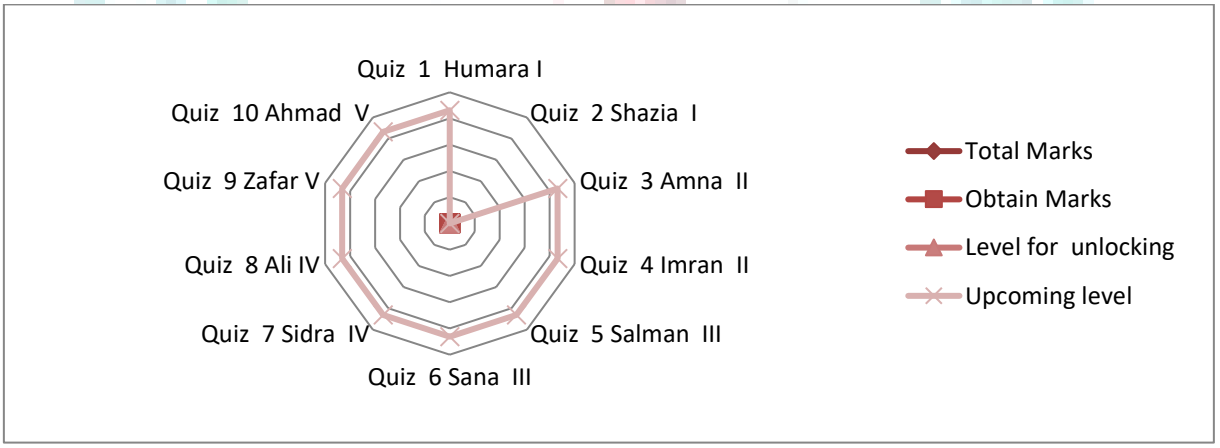


Figure 17: The Weightage of Mark to Access the Level

The weightage of total marks same according to class and decision criteria also same so student take as fun to access desire level.

CHAPTER NO 5

CONCLUSION

The Digital gadgets consisting of smartphones, tabs and laptops do not appear probably to be going way from human existence in any time. Whilst increase feature are much liked primarily based on new generation will persisted the gadgets with very small length but greater effective. The wide variety of smartphones used to provide facility to run distinctive application by means of extending the capability of communiqué and these centers allow the person to develop numerous of software system in the discipline of schooling to preserve distinct projects. On the other hand language learner makes use of regular to decorate their capabilities. Whilst smartphones honestly flow within the field of training to have interaction with primary school college students for facilitation of Urdu language via the usage of particular app that used to permit study via Urdu in anywhere. With the assist of strengthen era the scale of computers could be very small however plays more than one tasks which includes demanding situations and opportunities and instructional apps are hastily developing inside the field of learning. One of the educational aim is encourage the learner to designed which kind of software may be used in mastering to follow right way for primary school children in Punjab Pakistan. There's number of software existing in many languages however this utility ISPL system used to engage with Urdu. The essential aim of this research is to develop virtual gadgets studying interference for number one class students based on android system that would make opportunity for the scholars to examine via Urdu language to expand talent. We proposed system used to allow, checking the quality of individual college students with their intellectual evaluation based on intelligent interface that used to differentiate level of achievement based on learning functionality. Purposed system ISPL extensively utilized for enables the scholars in Urdu language to taking quiz and refreshes her know-how inside time to reap target for next one to boom performance. The end result of the opposition or gaining knowledge show after completing the task below the history for future reference. As per new marketplace portion of industry diagnosed the strong demand of consumer with minimal fee, so we're design this roles based system by comparing many other already design system such as English builder and our proposed system ISPL downloading unfastened as open supply to put in anybody to engage with Urdu language to broaden mastering competencies. Our proposed system that became consist of two hundred students from grade-I to at class one stage in Lahore Punjab Pakistan

who're studding special topics in their classes. We emphasize the usage and asked the students to usage of ISPL System ISPL system help them for studding via Urdu for buying their preference score, then a studies report have been expended in ordered to series of data. The numbers of results are display from this research to provide the remarks that there may be a high-quality relation among Urdu studying utility “ISPL system” and students able to enhance capability of performance, stratification and conduct which have interaction in studding via Urdu language and at the end system is used in real phrase to introduce easy use of Urdu language for number one faculty youngsters.

RECOMMANDATION

In countries, primary school education department should create and implement learning techniques for children based on technology to encourage learning process for students. The educational systems usually actively involved to providing the available useful resource with any cost based on experiment. We proposed the ISPL system via Urdu language with Punjab curriculum. The syllabus in ISPL System (ISPL system) is divide in month and smart to reach intention of exam but teacher and parent can extend the future of extra activities that directly Leeds the emotion and behaviour of student to learn other challenges of word that arise from number of comparative exam and also it can implement for scholars to study very efficaciously. The ISPL system used in the field of education and provide the ability for youngsters to train them with very powerful manner so in advance level we can also proposed machine learning mechanism such as magnetic strip to check automatic test that generate results within very short time . There are numerous of academic system software program are to be had in app shops for kids, however the judgment for right one is tough to content so the right rule based system avail variety of benefits to beautify functionality in the field of education. The cutting-edge have to look at display that influence the use of clever devices motivate the early kids to speak with schooling at very little age and develop numerous of talents to deal with fundamental operations so with the help of develop system kids get excitation to use these types of touch devices and pleasure plenty therefore teacher can influence the student to enhance learning with Punjab syllabus. Early age youngsters show interest without noting the judgment of incorrect and right specially in take care of the smart devices but we recommended mechanism for students only can follow right way so extra features can be added for syllabus distribution in high school level with month wise to perform high archive results.

The children at the age of three to 5 year can communicate if we add a annotation feature that used to display hobby with variety of devices to spend increasingly more time and youngsters treat with cell as their personal fiend and study the language to enhance her capability with very playing way. The case look and show the knowledge of children by means of increasing the improvement of social media as alongside kids abilities also develop with using virtual gear in friendly environment. The primary class students can be motivated to examine language by using range of facilitated gear primarily based on their interest which includes animals, culmination, shapes, gadgets, coloration and so on. The

learning software program is growing in keeping with need of want of kids within the subject of Urdu and English both. a few critical apps are mention in desk for primary college kids that are already available in one of a kind app stores.

We proposed the ISPL system used to encourage the learner and asking about which type of software system is better as compare to other for used in studying to follow right manner via Urdu learning same as like we can add extra feature of English to extend learning skills and fulfil the require of syllabus both in English or Urdu with very high grades. There the range of apps exist in many languages however ISPL system used to interaction via Urdu and can be extended in English or more other languages and also we can design extra critical goal of system is to develop mastering interference for primary magnificence students based totally on android system that could make possibility for the scholars to research Urdu language to develop talent. Theorem the consequently the ISPL system used to allow, checking the calibre of individual students with their intellectual assessment based totally on sensible interface that used to differentiate degree of fulfilment and additionally based on mastering functionality for students who come from any other language based on extra editing feature . The ISPL System also used for enables the students in Urdu language to taking quiz and refreshes her knowledge within time to reap goal for next one to growth efficiency. The end result of the opposition or gaining knowledge could be display after completing the project beneath and records for future reference so distribution of higher class syllabus can also work to recommend parents and teachers that want to encourage her higher class students and some alert feature can be also added to give the detail about present and absence of student for daily based communication with study. As in line with new market section the industry diagnosed the robust demand of person with minimal price, so we're layout this system also can be downloading loose as open supply to install every person to engage with Urdu language. The enrolment of teacher with this system can also distinguish level of students for first time setting in class room that's which class is important to learn children in school otherwise they can also utilize for mange time, space and complexity of students. We proposed the ISPL system for Urdu getting to know in line with Punjab curriculum as unfastened training. The syllabus in ISPL System ISPL system database divide month wise and smart to attain aim of examination used to motivate the students for analyse very effectively.

ANNEXURES 1

Rule :: = **start rule** id-rule

If premise – rule *

Then

Action rule

I-d rule :: = " sequence of character "
Premise – rule :: = conditions [/* comments */]
Condition :: = function i-d (argument) relational operator values
Arguments ::= identifier
Relational-operator ::= = | < > | <>
Value ::= identifier | constant | expression
Expression :: = expression op-arit expression| numeric | num-function-id (arguments)
Op-arit :: = + | - | * | /
Action rule :: = action- id (arguments) affectation-op value
Affectation-op ::= <- | <=

ANNEXURES 2

Startrule *"Student Start Action In Front Page"*

If student (x)

age (y) ≤ 8

class (z) = x

*/ *primary classes * /*

Subject (x) = "URDU"

*/ *English */*

Then

Display <- "Welcome Page"

End rule

Start rule *"Reset Setting of System"*

If student (x)

age (y) ≤ 6

subject (z) = "Urdu"

student (x) = "After Finishing task"

*/ * When every student assessment have been completed, next class assessment level is open when student reset system * /*

End rule

Start rule *" Complexity of Question For intelligent Students"*

If *student (x) = "Intelligent"*

subject (y) = "Urdu"

Given question = "50"

*Logic set (z) = "5sets" / * Every set consists of 10 question * /*

*/ * Each quiz question is set in 5 sets easy, difficult and more difficult * /*

action (y) = " Question Shuffle for intelligent student"

*/ * Student first question is attempt correct then system ask next question difficult, student attempt difficult question, then system ask more difficult question * /*

Then

Display <- "Questions"

*/ * Questions appear with images * /*

End rule

Start rule *" Complexity of Question for Slow Learner"*

If *student (x) = "Slow learner"*

subject (y) = "Urdu"

Given question = "50"

*Logic set (z) = "5sets" / * Every set consists of 10 question * /*

*/ * Each quiz question is set in 5 sets easy, difficult and more difficult */*

action (y) = " Question Shuffle for slow student"

*/ * Student first question is wrong, system ask next question within one set, student again attempt wrong, system ask again question within one set * /*

Then

Display <- "Question"

End rule

Start rule *"Complexity of student For Average Student"*

If student (x) = "Average"

subject (y) = "Urdu"

Given question = "50"

*Logic set (z) = "5sets" / * Every set consists of 10 question * /*

*/ * each quiz question is set in 5 sets easy, difficult and more difficult * /*

action (y) = " Question Shuffle for average student"

*/ * Student first question is attempt wrong then system ask next question easy, student correct easy question, then system ask next question is difficult and continue*

Then

Display <- "Questions"

*/ * Questions appear with image * /*

End rule

Start rule *" Student of Intelligent Learner"*

If *student (x)*

age (y) ≤ 7years

*/ * age can be 7 and more * /*

subject (z) = "Urdu"

*/ * assessment of Urdu Quiz */*

Class (z) = x

*/ *primary classes * /*

marks(x) ≥ 100

*/ * out of 100 * /*

Then

Announce <- "Level 1,2 is open and also 3 level is open "

*/ * Urdu books is open * /*

Advice Display <- "Always be working hard and stay successful in life"

End rule

Start rule *"Opening of Level for Intelligent Learner"*

If *student (x)*

age (y) ≤ 7years

*/ * age can be 7 and more * /*

subject (z) = "Urdu"

*/ * assessment of Urdu Quiz */*

Class (z) = x

*/ *primary classes * /*

marks(x) ≥ 100

*/ * out of 100 * /*

Then

Announce <- "Level 1,2 is open and also 3 level is open "

*/ * Urdu books is open * /*

Advice Display <- "Always be working hard and stay successful in life"

End rule

Start rule *"Calculate the Result"*

If *student (x)*

Class (x) = y

*/ * classes of primary level */*

Age (y) = ≤ 6

*/ * age can bi 6 and more * /*

Subject (z) = "URDU"

Submitted (x) = result of assessment

Then

Calculate (x) <- "Result of assessment"

Advice / Teacher suggestion */*

End rule

.....

REFRENCES

[1] Pakistan Ministry of Finance (2012), Pakistan Economic Survey, 2011-2012, Retrieve July, 2012 from http//www.finance.gov.pk/survey/chapter_12/10.Education.pdf.

[2] Sharma, A. K. & Singh, S. P. (2005). Reading habits of faculty members in natural sciences: A case study of the University of Delhi. Annals of Library and Information Studies, 52, 119-123.

[3] Ranga, R.R. Methods of Teacher Training. New Delhi: Discovery Publishing House 2005.

[4] Kyriakides, A. O., Meletiou-Mavrotheris, M., &Prodromou, T. (2016). Mobile technologies in the service of students' learning of mathematics: The example of game application ALEX in the context of a primary school in Cyprus. Mathematics Education Research Journal, 28(1), 53e78.

[5] Ofcom. (2014). Children and parents: media use and attitudes report. Retrieved on October 2016 from: https://goo.gl/BK5pJn.

[6] Papadakis, S., Kalogiannakis, M., &Zaranis, N. (2017). Designing and creating an educational app rubric for preschool teachers.Education and InformationTechnologies, 1e19.

[7] Hwang, G. J., Wu, T. T., & Chen, Y. J. (2007). Ubiquitous computing technologies in education.International Journal of Distance Education Technologies, 5(4),1e4.

[8] Gulati, S. 2008. Technology-enhanced learning in developing nations: A review. International Review of Research in Open and Distance Learning, 9 (1): 1-16.

[9] Huet, J.-M. andTcheng, H.(2010) What if telecoms were the key to the third industrial revolution?(GlobalEdition).[Online].Available at: http://books.google.com.sa/books

[10] Demuynck, K. and Laureys, T. (2002) 'A comparison of different approaches to automatic speechsegmentation',Proceedings of the 5th International Conference on Text, Speech and Dialogue, Brno,Czech Republic, September 2002, pp. 277–284.
[11] 53. Siraj-Blatchford, J., Siraj-Blatchford, I.: A guide for developing the ICT curriculum forearly childhood education. Trentham Books, Stoke on Trent (2006)

[12] 25. Hayes, M., Whitebread, D.: ICT in the early years (Learning and teaching with Information& Communications Technology). Open University Press, Maidenhead (2006)

[13] 47. Price, H. (ed.): The Really Useful Book of ICT in the Early Years. Routledge, New York (2009)

[14] L. Nanni and A. Lumini, Ensemble generation and featureselection for the identification of students with learningdisabilities, Expert Systems with Applications, **36**, 2008, pp.
3896–3900.

[15] B. G. Buchanan,Avery brief history of artificial intelligence,Artificial Intelligence Magazine, 25th anniversary issue, 2005,pp. 53–60.

[16] B. M. Macmillan, Rhyme and reading: A critical review ofthe research methodology, Journal of Research in Reading,**25**(1), 2002, pp. 4–42.

[17] L. Roberts and S. McDougall, Explaining Performance inthe Orthographic Analogy Task: Phonological Priming,Phonological Skills and Letter-sound Knowledge. Journal of Experimental Child Psychology, **84**(4), 2003, pp. 310–337.

[18] Morrison, G. R., Ross, S. M., Kemp, J. E., &Kalman, H. (2010). Designing effective instruction: Applications of instructional design (6th. Ed.), New York, NY: Wiley.

[19] Даниловић, M. (2004). Recognition and development of "educational technology" as a scientific field and school subject, ZbornikInstitutazapedagoskaistrazivanja, (36):106-121, DOI:10.2298/ZIPI0436106D

[20] Hashim, A.S., Ahmad, W.F.W. and Ahmad, R.(2011) 'Mobile learning course content application as a revisiontool: The effectiveness and usability',Pattern Analysis and

Intelligent Robotics (ICPAIR).Tronoh,Malaysia, 2001.Computer& Informatics Science Department, University of Teknol: pp. 184187.

[21] Brown, Douglas H. 2005. English Language Teaching in the "Post-Method" Era:Toward Better Diagnosis, Treatment and Assessment. In Richards, Jack, Renandya,Willy A. Methodology in Language Teaching: An Anthology of Current Practice.Cambridge University Press. ISBN 0-521-00440-3

[22] Richards, Jack, and Willy A. Renandya. 2002. Methodology in Language Teaching: An Anthology of Current Practice. Cambridge University Press. ISBN 0-521-00440-3

[23] UNESCO defines literacy as the "ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society."

[24] "(Skutnabb - Kangas 2009:340)

[25] Gordon, Raymond G. Jr. (ed). 2005. Ethnologue: languages of the World 15th edition Dallas, Tx: SIL International. Online version: http://www.ethnologue.com/.

[25] Keysar, Boaz; Hayakawa, Sayuri L. and An, Sun Gyu (2012) "The Foreign-Language Effect: Thinking in a Foreign Tongue Reduces Decision Biases", Psychological Science Online First, published on April 18, 2012 as doi:10.1177/0956797611432178

[26] Agbedo, Chris Uchenna; Ebere Celina Krisagbedo, Virginia ObiomaEze (2012) "Mother Tongue Education as Agency of Decolonization: Implications for National Development in Nigeria", Developing Country Studies, Vol. 2, No.11, 2012, www.iiste.org

[27] Vulli, Dhanaraju (2014) "English and Medium of Instruction: Dalit Discourse in Indian Education", Research Journal of Educational Sciences, Vol. 2(2), 1-6, May (2014)

[28] Phiri, Morrin; DarmarrisKaguda and DumoluhleMabhena (2013) “The ‘Mother Tongue as Media of Instruction’ Debate Revisited: A Case of David Living-stone Primary School in Harare, Zimbabwe”, Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS) Vol. 4, Vo. 1, pp. 47-52, Scholarlink Research Institute Journals, 2013, www.jeteraps.scholarlinkresearch.org

[29] Coleman, Hywel and Capstick, Tony (2012) “Language in education in Pakistan: Recommendations for policy and practice, © British Council 2012 Diplomatic Enclave, Ramna 5 P.O. Box 1135, Islamabad, Pakistan, www.britishcouncil.org.pk

[30] Ball, Jessica (2010) “Educational equity for children from diverse language backgrounds: Mother tongue-based bilingual or multilingual education in the early years” Presentation to UNESCO International Symposium: Translation and Cultural Mediation, Paris: UNESCO, 22-23 February 2010, on 11th International Mother Language Day in collaboration with the International Association for Translation and Intercultural Studies, 2010

[31] Orekan, George (2011) “ Mother Tongue Medium as an Efficient Way of Challenging Educational Disadvantages in Africa: The Case of Nigeria”, Scottish Languages Review Issue 23, Spring 2011, pp. 27-38

[32] Kamaruzaman, M. &Zainol, I. (2012) ‘Behavior response among secondary school students developmenttowards mobile learning application’,Humanities, Science and Engineering (CHUSER), 2012 IEEEColloquium On, 2012. IEEE, pp.589-592.

[33] Shams, J. A. (2013) ‘M-learning: Factors influencing behavior intentions in distance education’,AsianAssociation of Open Universities (AIOU), 27th Annual Conference. Islamabad, Pakistan.1 Oct. 2013.

[34] Harrison, R., Flood, D. & Duce, D.(2013)‘Usability of mobile applications: literature review and rationale for anew usability model’,Journal of Interaction Science,1,pp. 1–16.

[35] Vogel et al.(2007)

[36] Wei-Han Tan, G., Ooi, K.-B., Sim, J.-J. &Phusavat, K. (2012)'Determinantsof mobile learning adoption: An empirical analysis',Journal Of Computer Information Systems, 52.

[37] Hamdan, K. and Ben-Chabane, Y. (2013) 'An interactive mobile learning method to measure students'performance',QScience Proceedings,12th World Conference on Mobile and Contextual Learning(mLearn 2013),Qatar.

[37] Hassanein, K., Head, M., & Wang, F. (2010) 'Understanding student satisfaction in a mobile learningenvironment: the role of internal and external facilitators',2010 Ninth International Conference onMobile Business and 2010 Ninth Global Mobility Roundtable (ICMB-GMR), pp.289–296.

[38] International Journal on Soft Computing, Artificial Intelligence and Applications (IJSCAI), Vol.3, No. 1, February 2014

[39] Richert, R. A., Robb, M. B., & Smith, E. I. (2011). Media as social partners: The social nature of young children's learning from screen media. Child Development, 82, 82–95.

[40] Huet, J.-M. andTcheng, H.(2010) What if telecoms were the key to the third industrial revolution?(GlobalEdition).

[41] Kutluk, FilizAngay and Gülmez, Mustafa. (2014) 'Research about mobile learning perspectives of university students who have accounting lessons', *Procedia– Social and Behavioral Sciences*, 116, pp. 291–297.

[42] Mara, U.T. (2012)'Behavior response among secondary school students development towards mobile learning application',*Chuser*, pp. 589–592.

[43] Darcey, L. and Conder,S. (2012) *Android Wireless Application Development, Vol. I: Android Essentials.* New Jersey,Addison-Wesley (3rd ed.).

[44] Kamaruzaman, M. &Zainol, I. (2012) 'Behavior response among secondary school students development towards mobile learning application',*Humanities, Science and Engineering (CHUSER), 2012 IEEE Colloquium On, 2012*. IEEE, pp.589-592.

[45] Jairak, K., Praneetpolgrang, P. &Mekhabunchakij, K. (2009) 'An acceptance of mobile learning for higher education students in Thailand',*Sixth International Conference on eLearning for Knowledge-Based Society,* Thailand: pp.361–368.

[46] Abu-al-Aish, A. and Love, S. (2013) 'Factors influencing students' acceptance of m-learning: An investigation in higher education',*The International Review of Research in Open and Distributed Learning,* 14.

[47] Hassanein, K., Head, M., & Wang, F. (2010) 'Understanding student satisfaction in a mobile learning environment: the role of internal and external facilitators',*2010 Ninth International Conference on Mobile Business and 2010 Ninth Global Mobility Roundtable (ICMB-GMR)*, pp.289–296.

[48] Velicanu Anda, Lungu Ion, Diaconita Vlad, Codrin-Florentin Nisioiu - Cloud E-learning, Volume of 9th International Conference"E-learning and software for education", 2013

[49] Andersen, I. 2013, "Mobile Apps for Learning English. A Review of 7 Complete English Course Apps: Characteristics, Similarities and Differences."

[50] Subian, 2014, from: http://www.doc88.com/p-4042295759298.html

[51] Kukulska-Hulme, A. and Shield, L., 2008, "An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction," *ReCALL*, *20*(3), pp.271-289

[52] Kukulska-Hulme, A., 2009, "Will mobile learning change language learning?" ReCALL, 21(2), pp.157-165.

[53] Godwin-Jones, R., 2011, “Emerging technologies: Mobile apps for language learning,” Language Learning & Technology, 15(2), pp. 2-11.

[54] Ramya, G., & Madhumathi, P., 2016, “Teaching Language through Mobile Technology for Kindergarten Children in the Class room,” Proc. International Conference on Innovations in the Teaching of English Language and Literature (ICITELL 2016, VIT University).

[55] Liu, Q. and He, X., 2015, “Using mobile apps to facilitate English learning for college students in China,”

[56] Kim, Y. and Smith, D., 2017, “Pedagogical and technological augmentation of mobile learning for young children interactive learning environments,” Interactive Learning Environments, 25(1), pp.4-16.

[57] Chu. Eric. 2009, "Android Market Update Support".

[58] Miangah, T.M. & Nezarat, A. 2012, "Mobile-Assisted Language Learning", International Journal of Distributed and Parallel Systems, vol. 3, no. 1, pp. 309-319.

[59] Liu, T.Y., Tan, T.H., & Chu, Y.L. 2009, "Outdoor natural science learning with an RFID supported immersive ubiquitous learning environment", Journal of Educational Technology & Society, vol.12, no.4, pp.161-175.

[60] Banister, S. 2010, "Integrating the iPod Touch in K-12 education: Vision and vices", Computers in the Schools, vol.27, pp.121-131.

[61] Kukulska-Hulme, A., & Shield, L. 2007, "An Overview of Mobile Assisted Language Learning: Can mobile devices support collaborative practice in speaking and listening", EuroCALL 2007.

[62] Belanger, Y. 2005, "Duke University iPod first year experience final evaluation report" Accessed 27th August 2007 from: http://cit.duke.edu/pdf/ipod_initiative_04_05.pdf

[63] Chinnery, G. 2006, "Going to the MALL: Mobile assisted language learning", LANGUAGE LEARNING & TECHNOLOGY, vol. 10, no. 1, pp. 9-16.

[64] Ahmet, B. 2011, “ELT Teachers as Online Material Developers”, from: http://www.tojdel.net/pdf/v01i02/v01i02-02.pdf

[65] Attard, A., Iorio, E. D., Geven, K. & Santa, R. 2014, “Student-Centered Learning SCL Toolkit”.

[66] Mutiara, D., Zuhairi, A., & Kurniati, S. 2007, “Designing, Developing, Producing And Assuring The Quality Of Multi-Media Learning Materials For Distance Learners: Lessons Learnt From Indonesia's Universitas Terbuka”, Turkish Online Journal of Distance Education-TOJDE, vol. 8, no. 2.

[67] Blake, R. J., & DeForge, A. M. 2004, “Language learning at a distance: Spanish without walls”, NFLRC Symposium.

[68] Nichols, M. 2003, “A Theory for e-learning”, Educational Technology & Society, vol. 6, no. 2, ISSN 1436-4522, pp. 1-10.

[69] Alexander, S. 2001, “e-learning Developments and Experiences”, Education & Training, vol. 43, no. 4-5, pp. 240–248.

[70] Shih, R. C. 2011, “Can Web 2.0 technology assist college students in learning English writing? Integrating Facebook and peer assessment with blended learning”, Australasian Journal of Educational Technology, vol. 27, no. 5, pp. 829-845.

[71] Conroy, M.A. 2010, "Internet tools for language learning: University students taking control of their writing", Australasian Journal of Educational Technology, vol. 26, no. 6, pp. 861-882.

[72] Lou, S. J., Guo, Y. C., Zhu, Y. Z., Shih, R. C. & Dzan, W. Y. 2011, “Applying computer- assisted musical instruction to music appreciation course: An example with Chinese musical instruments”, The Turkish Online Journal of Educational Technology, vol. 10, no. 1, pp. 45- 57, from: http://www.tojet.net/articles/1015.pdf

[73] Liang, J. C. & Tsai, C. C. 2010, ”Learning through science writing via online peer assessment in a college biology course”, The Internet and Higher Education, vol. 13, no. 4, pp. 242-247, from: http://dx.doi.org/10.1016/j.iheduc.2010.04.004

[74] Yiping, W. & Lei, W. 2010, “The practice of students-centered teaching mode”, from: http://wenku.baidu.com/link?url=uMkwOzGDsNrIpW9IuPVxjxryymPaJAPLKQcCYNvQn_ qN4wPhCrsz52v3fpn5x-x3kufZvDIdUDWFizFllM0ERbZM9ohRnEdPJU8MDXlPrrG

[75] Kramarski, B. & Gutman, M. 2006, "How can self-regulated learning be supported in mathematical E-learning environments?", Journal of Computer Assisted Learning, vol. 22, no. 1, pp. 24-33.

[76] Kitsantas, A., & Dabbagh, N. 2010, “Learning to learn with Integrative Learning Technologies (ILT): A practical guide for academic success”, Greenwich, CT: Information Age Publishing.

[78] Motteram, G. 2013, “Innovations in learning technologies for English language teaching”

[79] Dabbagh, N., & Kitsantas, A. 2004, “Supporting self-regulation in student-centered web- based learning environments”, International Journal on E-learning, vol. 3, no. 1, pp. 40-47..

[70] Channel 4, Unreported World: 15 and Learning to Speak. 2014. [Video]. Available: https://www.youtube.com/watch?v=CNCPgrm8Gu4 . [Accessed: Mar- 2016]

[71] N. R. Kuncel and S. A. Hezlett, “Standardized tests predict graduate students success,” Science, vol. 315, pp. 1080–1081, 2007.

[72] E. Cohn, S. Cohn, D. C. Balch, and J. Bradley, “Determinants of undergraduate gpas: Sat scores, high-school gpa and high-school rank,” Economics of Education Review, vol. 23, no. 6, pp. 577–586, 2004.

[73] E. R. Julian, “Validity of the medical college admission test for predicting medical school performance,” Academic Medicine, vol. 80, no. 10, pp. 910–917, 2005.

[74] P. A. Gallagher, C. Bomba, and L. R. Crane, “Using an admissions exam to predict student success in an adn program,” Nurse Educator, vol. 26, no. 3, pp. 132–135, 2001.

[75] W. L. Gorr, D. Nagin, and J. Szczypula, “Comparative study of artificial neural network and statistical models for predicting student grade point averages,” International Journal of Forecasting, vol. 10, no. 1, pp. 17– 34, 1994.

[76] N. T. Nghe, P. Janecek, and P. Haddawy, “A comparative analysis of techniques for predicting academic performance,” in Frontiers In Education Conference-Global Engineering: Knowledge Without Borders, Opportunities Without Passports, 2007. FIE’07. 37th Annual. IEEE,2007, pp. T2G–7.

[77] R. D. Goldman and R. E. Slaughter, “Why college grade point average is difficult to predict.” Journal of Educational Psychology, vol. 68, no. 1, p. 9, 1976.

[78] S. Huang and N. Fang, “Predicting student academic performance in an engineering dynamics course: A comparison of four types of predictive mathematical models,” Computers & Education, vol. 61, pp. 133–145,2013.

[79]E. Osmanbegovi´c and M. Sulji´c, “Data mining approach for predicting student performance,” Economic Review, vol. 10, no. 1, 2012.

[80] B. K. Baradwaj and S. Pal, “Mining educational data to analyze students’ performance,” arXiv preprint arXiv:1201.3417, 2012.

[81] S. K. Yadav, B. Bharadwaj, and S. Pal, “Data mining applications: A comparative study for predicting student’s performance,” arXiv preprint arXiv:1202.4815, 2012.

[82] A. B. E. D. Ahmed and I. S. Elaraby, “Data mining: A prediction for student’s performance using classification method,” World Journal of Computer Application and Technology, vol. 2, no. 2, pp. 43–47, 2014.

[83] P. Cortez and A. M. G. Silva, “Using data mining to predict secondary school student performance,” 2008.

[84] L. H. Werth, Predicting student performance in a beginning computer science class. ACM, 1986, vol. 18, no. 1.

[85] J. L. Turner, S. A. Holmes, and C. E. Wiggins, “Factors associated with grades in intermediate accounting,” Journal of Accounting Education, vol. 15, no. 2, pp. 269–288, 1997.

[86] A. Y. Wang and M. H. Newlin, “Predictors of web-student performance: The role of self-efficacy and reasons for taking an on-line class,” Computers in Human Behavior, vol. 18, no. 2, pp. 151–163, 2002.

[87] S. Kotsiantis, C. Pierrakeas, and P. Pintelas, “Predicting students’performance in distance learning using machine learning techniques,” Applied Artificial Intelligence, vol. 18, no. 5, pp. 411–426, 2004.

[88] C. G. Brinton and M. Chiang, “Mooc performance prediction via clickstream data and social learning networks,” in 34th INFOCOM IEEE. 2015, To appear.

[89] C. Romero, M.-I. L´opez, J.-M. Luna, and S. Ventura, “Predicting students’ final performance from participation in on-line discussion forums,” Computers & Education, vol. 68, pp. 458–472, 2013.

[90] M. I. Lopez, J. Luna, C. Romero, and S. Ventura, “Classification via clustering for predicting final marks based on student participation in forums.” International Educational Data Mining Society, 2012.

[91] M. D. Calvo-Flores, E. G. Galindo, M. P. Jim´enez, and O. P. Pineiro, “Predicting students marks from moodle logs using neural network models,”Current Developments in Technology-Assisted Education, vol. 1, pp. 586–590, 2006.

[92] D. Garcıa-Saiz and M. Zorrilla, “A promising classification method for predicting distance students’ performance.” EDM, pp. 206–207, 2012.

[93] C. Romero, S. Ventura, P. G. Espejo, and C. Herv´as, “Data mining algorithms to classify students.” in EDM, 2008, pp. 8–17.

[94] B. Minaei-Bidgoli, D. A. Kashy, G. Kortemeyer, and W. F. Punch, “Predicting student performance: an application of data mining methods with an educational web-based system,” in Frontiers in education, 2003. FIE 2003 33rd annual, vol. 1. IEEE, 2003, pp. T2A–13..

[95] Surjeet Kumar Yadav, Brijesh Bharadwaj, and Saurabh Pal. 2012. Mining education data to predict student's retention: A comparative study. International Journal of Computer Science and Information Security 10(2), 113-117.

[96] D. Kalles and C. Pierrakeas. 2006. Analyzing student performance in distance learning with genetic algorithms and decision trees. Applied Artificial Intelligence 20(8), 655- 674.

[97] G. Dekker, M. Pechenizkiy, and J. Vleeshouwers. 2009. Predicting students drop out: A case study. In: Educational Data Mining 2009, 41-50.

[98] Elaf Abu Amrieh, Thair Hamtini, and Ibrahim Aljarah. 2016. Mining educational data to predict student's academic performance using ensemble methods. International Journal of Database Theory and Application 9(8), 119-136.

[99] Paulo Cortez and Alice Maria Gonçalves Silva. 2008. Using data mining to predict secondary school student performance. In: Proceedings of 5th Annual Future Business Technology Conference, Porto, 5-12.